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A GUIDE TO BETTER

Gardens

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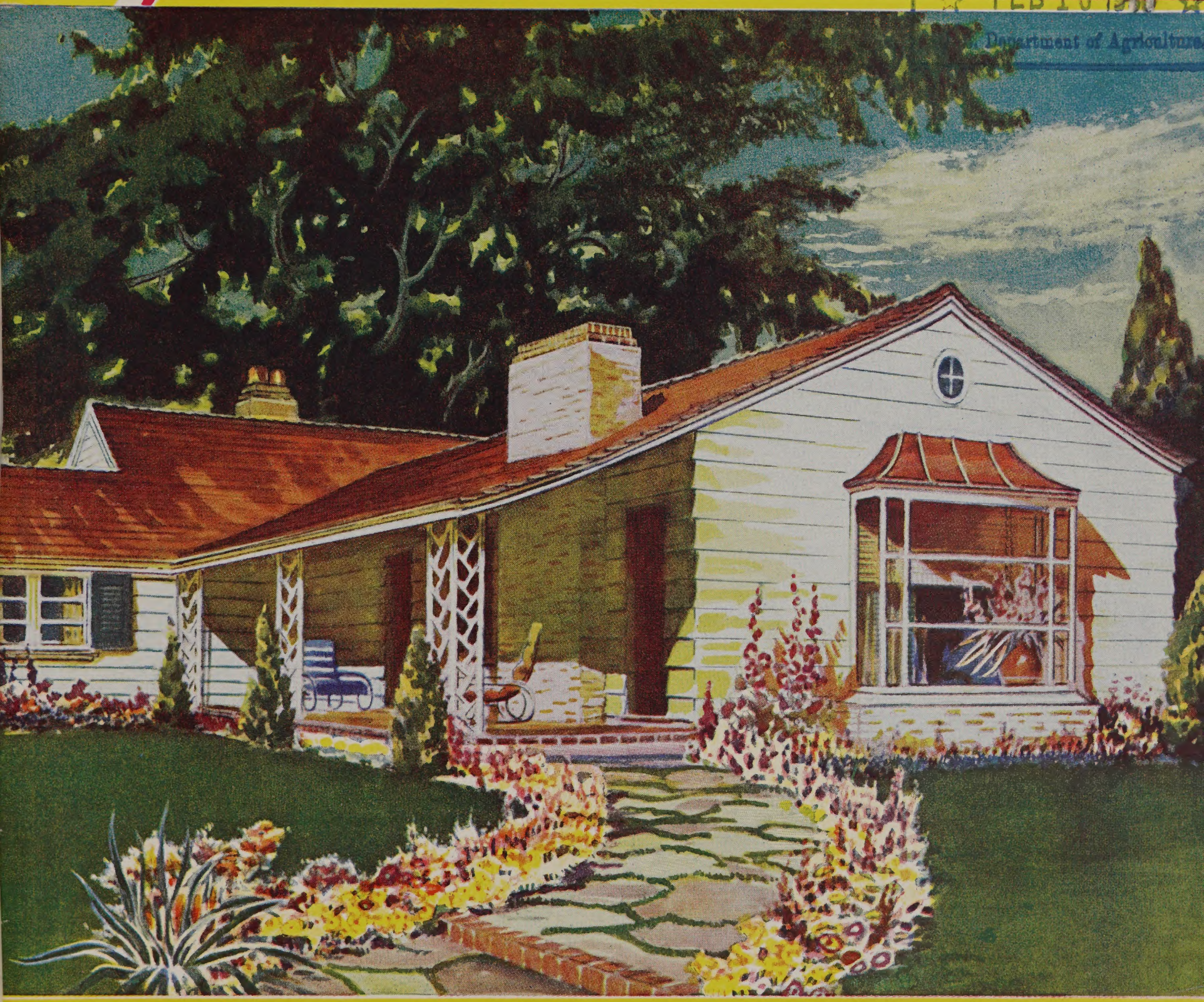


PORTLAND SEED AND PET STORE

204 S.W. YAMHILL

PORTLAND, OREGON

GIVE YOUR GARDEN A FAIR CHANCE TO PRODUCE

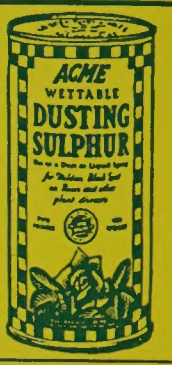
THESE ACME PRODUCTS WILL DO THE JOB RIGHT!

GARDEN GUARD

An excellent garden dust for control of many sucking and chewing insects. Safe—humans, pets, and animals are not exposed to the dangers of poison. Active ingredient—Rotenone. **4 lbs., 55c; 1 lb., 35c.**

DUSTING SULPHUR

An improved dusting sulphur which can also be used as a liquid. Recommended to control mildew, leaf spot, black spot and rust on roses, snapdragons, carnations, etc.
2 lb. carton, 25c.



APHIS SPRAY

A fine all around contact insecticide for control of Aphis, Thrip, etc. The handy 3 ounce tube contains 1 full ounce of Black Leaf 40 plus 2 ounces of soft spray soap. No muss! No mixing!
3 oz. tube, 35c.

KOPPER QUEEN

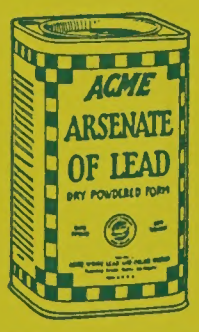
A strong liquid copper spray for control of mildew, leaf spot and other fungus. Does not stain the foliage. Will control fungus growth in fish pools without hurting fish. **1 pt., 60c; 8 ozs., 35c.**

EMO-NIK

Here is a complete contact spray combining nicotine in its most active form with a summer oil emulsion. Controls Aphis, Thrip as well as Red Spider and Scale. Can be mixed with Kopper Queen. **1 pt., 65c; 4 ozs., 35c.**

KOPPER KING

A Basic Copper Sulphate that is neutral and insoluble, requiring no lime to keep it from burning. Can be used as a liquid spray or mixed with carrier and dusted.
4 lbs., 85c; 1 lb., 35c.



ARSENATE OF LEAD

The favorite arsenical insecticide for the control of most chewing insects damaging shade trees, vegetables, berry bushes, etc. Does not burn the foliage and has great sticking power.
4 lbs., 80c; 1 lb., 35c.

BORDEAUX MIXTURE

Repels leafhopper and flea beetle, also prevents blight from gaining a foothold in injuries of leaf surface.
4 lbs., 75c; 1 lb., 30c.

KOPPER SHIELD

A specially prepared liquid paint containing copper for treating wounds left by pruning, etc. It prevents diseases and forms a protective shield while the tree is naturally overcoming shock.
1 pt., 35c; ½ pt., 25c.

WEED KILLER

A powerful quick-acting arsenical weed killer for destroying weeds and all plant life on driveways, tennis courts, paths, etc. Kills all plant life it contacts.
1 gal., $1.50; 1 qt., 50c; 1 pt., 30c.

DAWG-GONE

Keeps dogs away from trees, shrubs, etc. Just hang tube with cap and cork removed.
Per tube, 25c.

STOP

A tree-banding compound which acts as an uncrossable barrier to crawling insects.

To be used on all types of trees and shrubs. Weather does not bother this material. **1 lb., 65c; 6 ozs., 35c.**

ACME WHITE LEAD & COLOR WORKS
DETROIT, MICHIGAN

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FOREWORD

PLANTS have contributed to our comfort and pleasure since time immemorial, but not until a few years ago did their usefulness in beautifying our homes become so universally appreciated.

History records few changes in our mode of living that have equalled in growth and extent the present-day method of home beautification. It has spread to every city, town, and hamlet. Few changes have done so much to improve our standard of living or contributed more to our health and welfare.

Everywhere the old-fashioned front lawns have given way to beautiful open lawns with graceful shrubs softening the corners and walls. The back yard of yesterday has been converted into an "outdoor living room," carpeted with rich-green velvety grass, with walls of shrubs and trees, tapering down to borders of flowers arranged in groups to form as many different scenes as the imagination can inspire—living scenes that change with the hours, the days, and the seasons.

Here, away from the hazards of the street, children may play in safety. Here each member of the family finds an alluring retreat that only such an environment could provide, and the pleasure and satisfaction one gets from creating and maintaining this new beauty is almost equal to that which he receives from it.

Each plant, whether tiny blades of grass or a stately tree, is an individual with its peculiar habits of growth. To grow it successfully, we must provide as nearly its natural environment as possible. To do this is not difficult —it's principally a matter of knowing its needs.

It is our hope that this book will bring to you a better understanding of plants and their requirements for the fullest expression of their beauty. If it accomplishes this purpose, we shall feel amply rewarded.

Your Seed Merchant

FEATURING FAMOUS
DIAMOND QUALITY SEED

SOIL AND ITS PREPARATION

SOIL is the foundation of all growing plant life, therefore, to be assured of the utmost success in gardening it is necessary to first properly prepare the soil. It is a storehouse for the food and water which are so necessary to plant life. In addition, plants obtain some air from the soil. The soil also modifies heat relationship to a very marked extent. Cultural practices are also largely concerned with regulating conditions in the soil.

Most of the common plants have special soil preferences, that is, they do best in soils possessing certain physical properties, with a majority of plants these conditions are most satisfactory in loam soils, however, plants as a whole are able to adapt themselves to conditions other than those which are most desirable. They will grow in soils which may be either lighter or heavier than the loam.

For practical purposes it is possible to divide the soils into three main groups—very light soils, medium soils and those which are very heavy. The first group is represented by sandy soil, the second group by loam and the third group by clay soils.

Sandy soils allow considerable freedom of movement to the air and water and permit the destruction of organic matter which may be present in it. They lack body and plants growing upon them are apt to suffer under extreme weather conditions. These soils are difficult to work because they may blow badly.

Clay soils are heavy, that is, they do not permit water and air to move freely enough through them to encourage the best growth of plants. They easily become filled with too much water and plant roots may find stagnant air conditions in them. Clay soils are difficult to work, if they contain a little too much moisture they become very sticky, while if they are too dry they become hard and cloddy.

Loam soils represent the ideal condition for best plant growth. Their physical properties represent a medium between those of very sandy soils and extreme clays. They are not so loose and open as to permit excessive movement of air and water nor are they dense enough to prevent sufficient water movement and proper ventilation.

Very heavy clays can be greatly improved by the addition of either a lighter soil, sand or peat moss. The latter is more desirable as it will only work down approximately 6 inches unless spaded in further and then remain for an indefinite period. If sand or light soil is used it will be necessary to repeat this every few years as excessive moisture will eventually wash it on through to a depth that will be of little benefit to plant life. The ideal solution for heavy clay soil is a combination of sand and peat moss. The sand will work through and afford drainage while the peat moss will remain keeping the heavy soil in a loose condition.

The improvement of sandy soils may be brought about by the addition of a heavy clay material or with peat moss. If it is possible to improve this light soil before planting it is advisable to work in approximately an inch and a half of peat moss and clay to a depth of five inches. This combination should be thoroughly mixed before planting.

Humus or organic matter is of importance in maintaining a soil in good physical condition. Materials commonly known as humus consist of declayed remains of plants and animals. Proper feeding of plants is the most satisfactory method of increasing the humus content of the soil. Both the top and root systems of plants grow much larger when they are properly fed. A part of the root system dies each year thus incorporating humus in the soil where it is of great value. This method eliminates the objectionable feature connected with use of manure. Moreover it is the only way in which appreciable quantities of organic matter can be incorporated at any depth in the lawn soil.

The humus content of the soil can also be increased by the addition of large quantities of compost material if such materials are available, or by the addition of large quantities of peat moss. In the case of the compost material it should be thoroughly worked into the soil.

Material such as bone meal, which form but little humus, are of practically no value for the purpose of bettering soil conditions.

Manures should not be used on the lawn or in any other location where it is difficult to eradicate weeds since nearly all manures contain weed seed in large numbers.

Soil reactions can be classified into three general groups—Acid, Alkaline and Neutral. Acid soils oftimes called sour soils occur very widely throughout humid regions. Alkaline soils on the other hand are general in arid sections. Most of the plants grown about the home prefer a soil which is neither acid nor alkaline, such a condition is recognized as neutral.

If the soil is slightly alkaline or slightly acid it will be satisfactory for the growth of most plants. If medium to strongly acid the majority of plants will respond to the addition of sufficient Limestone or Hydrated Lime which will bring the soil up to a slightly acid or neutral condition. This is not true in case weed competition is a factor as it is in the lawn. Lime should not be used on the lawn or on acid-loving plants.

Alkaline conditions seldom exist in humid soils. Alkalinity is due to the presence of an excess of soluble salts in the soil and generally occurs under arid conditions. In humid regions Alkaline soils may be produced through the addition of too much hydrated or quick lime and it may at times be desirable to reduce the degree of this alkalinity. Aluminum Sulphate is the most efficient material for making a soil more acid. Broadcast this material evenly over the area at the rate of 2 pounds per 100 square feet and soak it well into the soil. It may be necessary to make several applications to obtain the degree of acidity desired. Care should be taken not to make the soil too acid. Acid compost material such as that made from oak leaves may be used if available. Such material acidifies soil very slowly.

The final and most important requisite of a good soil is the proper amount of well balanced plant food. This is best done by the use of a good complete commercial fertilizer to be applied at the approximate rate of 4 pounds per 100 square feet.

Rock Gardens

IT IS CORRECT to assume that the ideal rock garden is one capable of supporting a healthy growth of alpine and rock plants. In order to display them in an appropriate setting and to provide proper cultural conditions, in part at least, approximating those under which they grew in nature, a rock garden is necessary.

Apart from their value in providing a picturesque and natural setting, a rock garden has several distinctly utilitarian functions to perform. They help to keep the ground cool, they conduct moisture to the roots of the plants and prevent in part its loss by evaporation. As many alpine plants grow in a situation where the soil is constantly moistened during the growing season with rain or snow water, the importance of providing a cool root run is immediately obvious. Rocks serve to give shade and shelter and aid in promoting the efficient drainage which is so necessary. Also they hold up the soil making it possible to provide a variety of contours in the garden.

The forms that rock gardens take are many and varied, ranging from the many positive directions made solely for the purpose of growing a large collection of alpines and rock inhabiting plants, to the type designed purely for a landscape feature in which the plants are merely incidental decorative material. The ideal garden lies between these extremes and consists of a construction in which the rocks are arranged artistically, usually with the same relation to what one might find in nature, and placed in such a way that a reasonably large collection of plants may be cultivated.

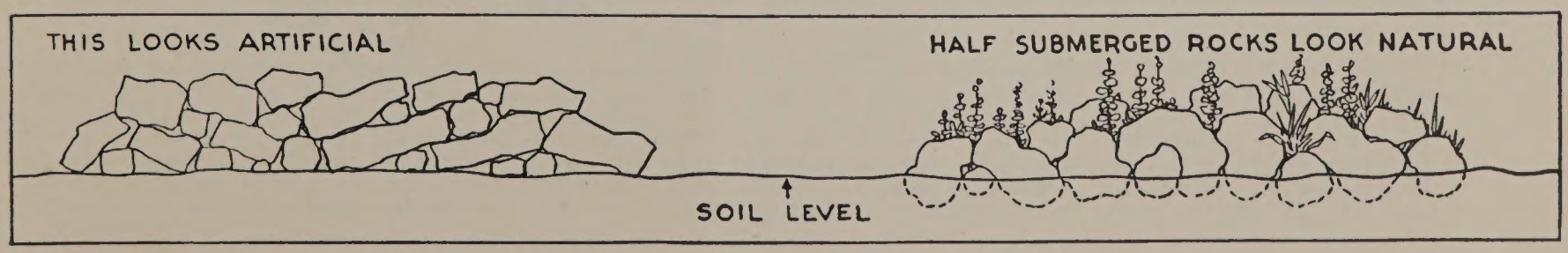
As a general rule, the site of the rock garden should be in the open, not subject to the drip of trees or to have to compete with their root systems.

Preferably the subsoil should be a porous nature permitting the rapid drainage of surplus moisture. This is true in spite of the fact that some alpines thrive in boggy situations. Where subsoil is not of this type, it is advisable to place a six-inch foundation of cinders before constructing the rockery.

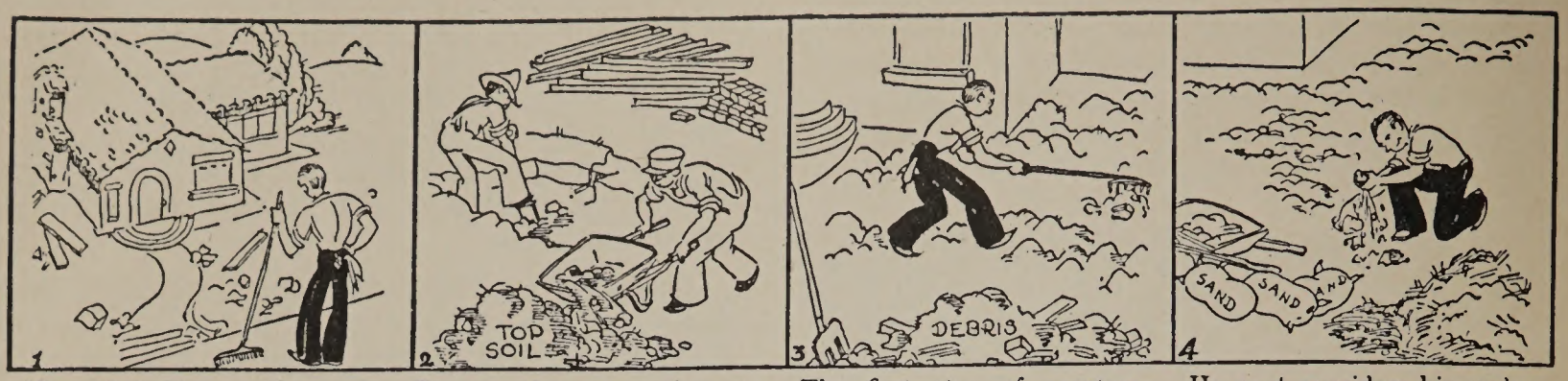
Weather worn limestone of irregular shapes is perhaps the most pleasing material for construction and the easiest to work with, but weathered rocks of almost any kind can be used to advantage, provided they are angular and blocky in form with a natural color and of pleasing appearance.

Having decided on the location and knowing the kind and amount of rock available, the next step is to remove the top soil from the area. This top soil is the medium in which the rock plants will be planted, therefore should be saved. Next the subsoil should be shaped up so its contour roughly conforms with the general outline the rock garden is to assume. Its drainage is necessary, it is advisable at this time to put in the six inches of cinders.

In placing the rocks it is advisable to partly submerge the larger ones and build up from that point. This will give a more natural effect as well as provide better sites for planting alpine and rockery plants.



Johnny Jones Builds a Lawn

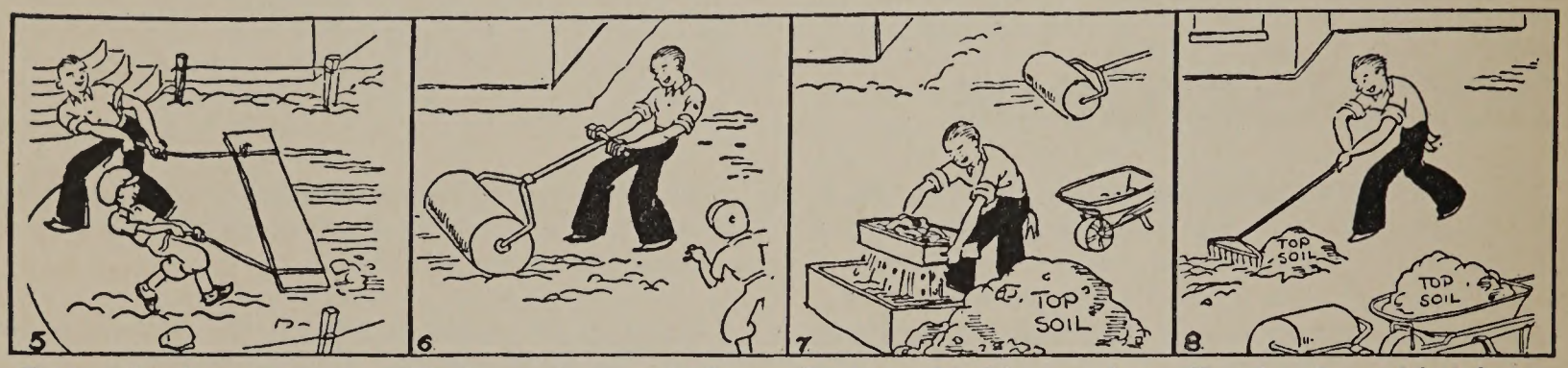


Now that his new house is erected and the outside workers are off the job, Johnny Jones is ready to start the preparatory work on his lawn in earnest.

During the excavation no under-soil was thrown out where the lawn was to be, but valuable top soil was saved and piled up at one side ready for later use.

The first step of construction he takes is to fork up the lawn area, rake it, break up earth clods and remove all rocks and debris not conducive to good grass growth.

He next considers his under-soil, and finding it too stiff and poor adds necessary lacking elements in the form of a liberal amount of sand and well-rotted strawy manure.



Taking the house steps as the fixed point for his grade he sets up grade stakes strung with stout cord and with Junior's help drags a flat board over the surface to level it.

He has a home-made lawn roller (made according to directions given in the Portland cement book) which he pulls lightly over the surface to compress the under-soil gently.

For his seed bed he spreads a top 2-inch layer of loam, using top soil saved from the excavation, screened together with humus supplied in the form of good dairy manure.

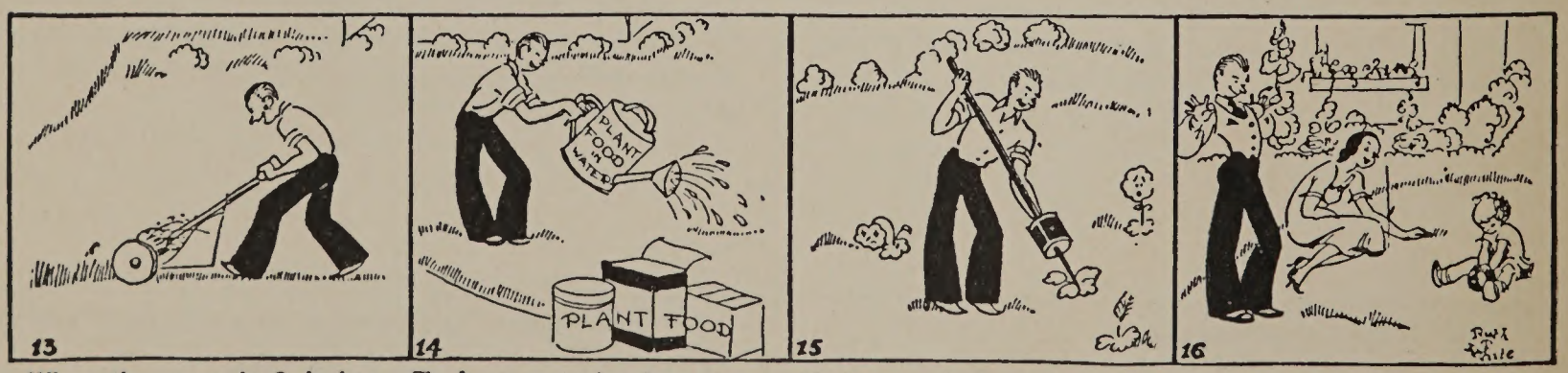
He rakes the seed bed finely, rolls it lightly a second time, allows it to weather so that weed seeds will germinate prior to seeding, and hoes out weeds as they spring up.

Quality grass seed is important. Jones buys his seed from the best store in town, knowing that they will give him the kind of mixture and the quantity he needs.

Being ready to sow, he divides up the area, apportions seed, and broadcasts in two directions, lengthwise and crosswise at right angles in order to cover completely.

After sowing, he carefully rakes in the seed with long light strokes so the tiny grass seed is well mixed with fine soil particles, and then lightly rolls it the third time.

To complete his planting, he waters thoroughly with light spray attached to his garden hose, being careful not to stand on newly seeded area, repeating this for several days.



When the grass is 3 inches high he mows it with a good five-blade mower, and thereafter weekly, being most careful that the mower does not drip oil on the lawn.

To keep maturing lawn conditioned he always waters as needed, and feeds the soil regularly with dependable commercial plant food applied as directed on the package.

He keeps a lookout for stray weeds—eradicating the few that appear with a patent weed gun. Having used good seed and reliable commercial plant food there are few weeds.

This picture of his family gathered to admire his fine lawn is a dream come true and is a fitting and adequate reward for any effort Johnny Jones has expended upon it.

SUNSET MAG.

LAWN

Every day we have inquiries on how to fertilize a new lawn or an established lawn or flower beds, etc. With this in mind we have set down a few facts generally covering this subject. If more detailed information is desired, please come in and let us help you.

The proper feeding of a new lawn is extremely important as the early stages in the growth of the grass are most crucial ones. A good supply of plant food is necessary for the production of vigorous grass that will soon cover the entire seeded area and keep weeds crowded out.

After the seed bed is prepared, a well balanced plant food should be applied at the rate of 4 pounds per 100 square feet, raked into the top 2 or 3 inches of soil. If plant food is applied just before the raking of the soil prior to seeding it can be forked into the soil and the soil surface smoothed and finely pulverized in the same operation.

The proper feeding of an established lawn is extremely important from an economical standpoint as a healthy established lawn requires far less water and care than one that lacks plant food. As soon as the grass on an established lawn shows signs of beginning spring growth the first feeding of the year should be made with a good complete plant food at the rate of 4 pounds per 100 square feet and watered well into the soil. A second application should be made in May at the rate of 2 pounds per 100 square feet and this same quantity should again be applied about the middle of July. If this program is followed you can be assured of having an outstandingly beautiful turf of thick velvety grass. Just before winter sets in an application of raw bone meal at the rate of 4 pounds per 100 square feet will give your lawn the necessary food it requires during the winter months.

SHRUBS

All shrubs respond to the application of plant food. The first feeding should be broadcast in the early spring at the rate of 3 pounds per 100 square feet of the area lying beneath the spread of the branches.

The second application should be given to the shrubs about two months after the first feeding. This application should be made at the rate of about 2 pounds per 100 square feet and thoroughly soaked into the ground. If the shrubs are growing as a hedge plant, food should be spread on either side of the hedge at the rate of 4 pounds for each 50 feet of row. The application should cover the soil as far away from the base of the hedge as corresponds with the branch spread. In most cases this will not be less than 2 feet on either side of the hedge. It is important that a great deal of water should be used in washing the fertilizer down to the roots as all good healthy shrubs are deep rooted.

FLOWERS

Liberal feeding with fertilizer promotes a vigorous growth of annual flowers and hastens the flowering period. Plant food should be applied with a spreader and raked into the soil at the rate of 4 pounds to each 100 square feet or 2 level tablespoonsful per square foot of bed after the seed bed has been prepared and well tilled but before the seeds are sown.

A second feeding should be made when the flowers are in the bud stage, by this time much of the plant food of the original application will have been used by the growing flowers and they will need additional food to carry them through the blooming period. This application may be lighter, consisting of 2 pounds of complete plant food per 100 square feet of soil. Immediately after the application has been made the plant food should be worked into the soil with a hoe or rake and then thoroughly water the bed.

One should be careful to avoid spilling plant food on the foliage of plants. If this does occur the plant food should be immediately washed from the leaves.

Perennial flowers should be fed at the same rate, however, more care should be taken to protect the foliage from the plant food as most perennials are grown in clumps.

VEGETABLES

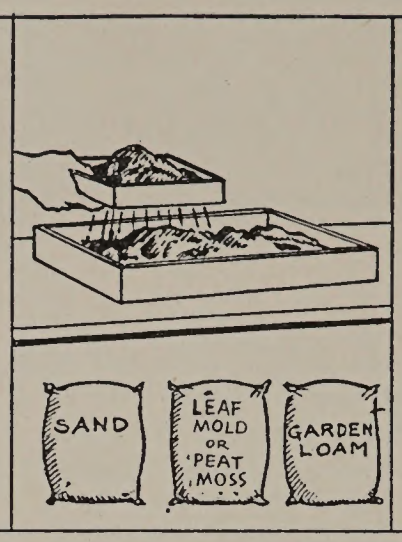
The feeding of a vegetable garden is very important as an abundant supply of complete plant food is necessary for the development of good quality and tasty vegetables. The garden plot should be fertilized with a spreader before seed is planted at the rate of 4 pounds per 100 square feet. This should be done after the bed is completely prepared but before the seeds are shown.

Six weeks after the original application, plants such as tomatoes, cabbage, celery, peppers and egg plant will be greatly bene tted by an application of plant food. This application should be made at the rate of 2 pounds for each 100 square feet or 1 pound to 50 feet of row and cultivated into the soil thoroughly with a how or garden plow. The second feeding will carry the plants through to maturity and greatly increase the yield and flavor. Care should be taken not to over-fertilize vegetables as too much plant food will cause abnormal growth and poor flavor will result.

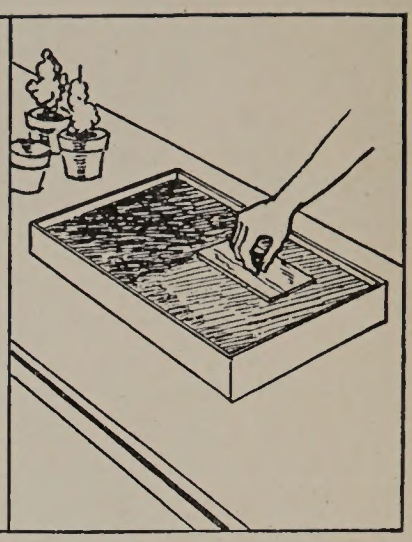
Starting Seed in Flats

It is economical to buy quality seed. Carefully read and follow the cultural directions printed on the packet to get the best results, for each plant has its own requirements.

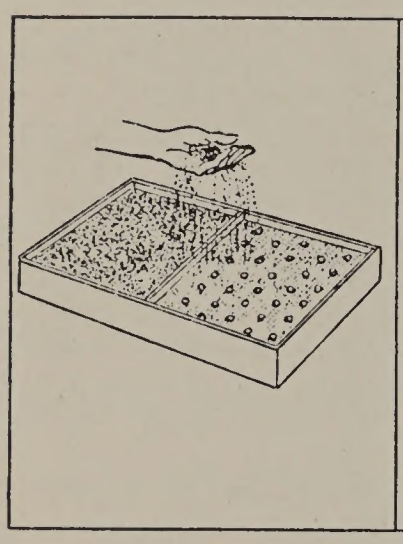
For soil drainage, break up old flower pots and cover the bottom of the seed box, in addition to boring holes in the bottom boards provided they are set with no space between.



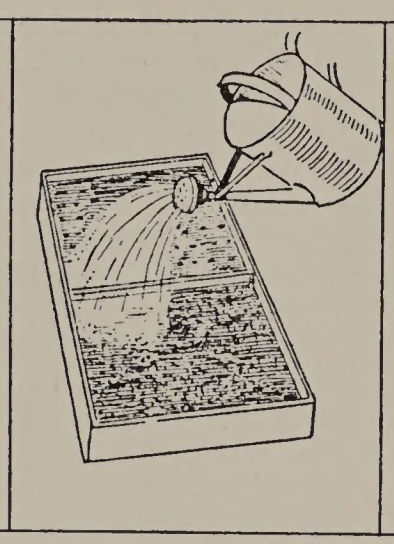
Sift well-prepared soil composed of sand, leaf mold and good garden loam on top of drainage material through a fine-meshed sieve, filling box to about 1 inch of the top.



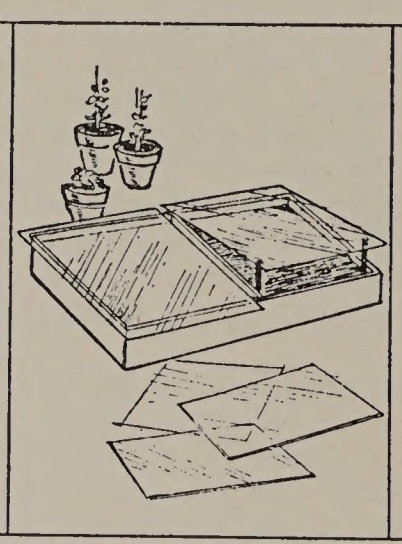
Firm the soil so it will not settle after water is applied by pressing down heavily on entire surface with a block of wood, making the surface perfectly level at the same time.



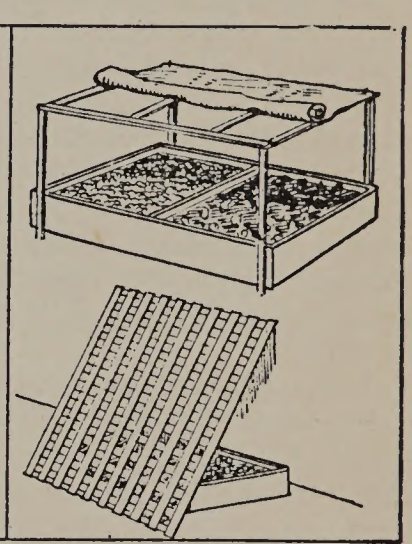
Scatter fine seed thinly over soil surface. Set large seeds down into the soil ¼ to ½ inch deep. Sift enough soil over the top of the seed box to lightly cover the seed.



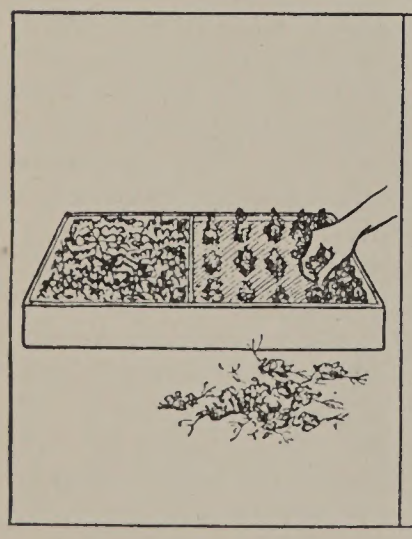
Gently sprinkle seed flat by means of a fine spray so as not to dislodge the seed. Water thoroughly, then do not water again until soil surface shows indications of drying out.



Cover seed flat with glass slightly tilted to provide plenty of ventilation. To aid germination a couple of thicknesses of newspaper can be put under glass till seed sprouts.

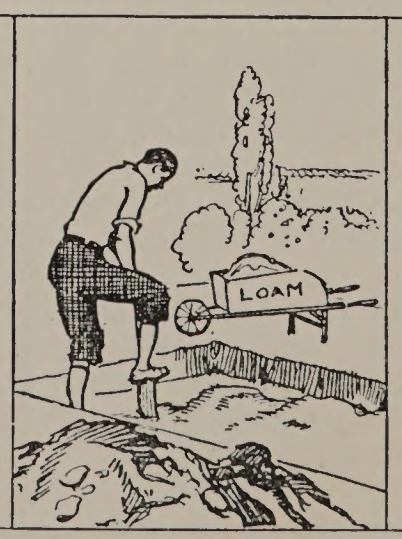


Set seed box where protected from direct sunlight, winds or downpour—in lath house, cold frame or under a tree.. If set in the open, shade with burlap, muslin or lath screen.

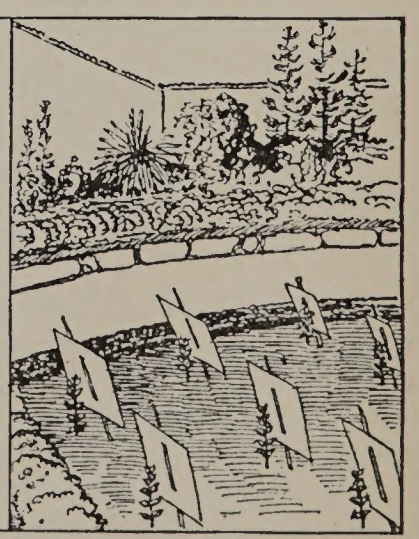


After the seeds sprout, keep the flat free from weeds. Also, thin out the little plants just as soon as they begin to touch so they do not grow up tall and spindly.

When fourth leaf appears lift out the plants with a fork and transplant into pots or box, using a little richer soil. Harden off plants by gradual exposure to sun and air.



In about two weeks set plants out into a garden spot prepared in advance by removal of stones and replacement of some of the subsoil with good garden loam and fertilizer.



After planting, carefully water the plants, so soil packs about the roots, then shade them for a few days by means of plant caps, improvised cardboard shields or inverted berry boxes

SUNSET MAG.

Dusting and Spraying

Plants become ill just as human beings do. When you walk or work amongst them in your garden, watch out for trouble. You are your garden's physician. Anything that looks wrong probably is wrong: a spot on a leaf, a leaf eaten away, tiny objects clinging to a branch, etc.

First, just what will you meet up with: Gardens are attacked by, (1) insects, (2) diseases, and (3) miscellaneous pests.

1. INSECT PESTS

Insects must eat—that is why they come after the growing things in your garden. There are two main kinds: biting insects, and sucking insects. The biters are controlled with stomach poisons placed on the leaves they eat. The suckers do not get their food from the surface of the plant, but from its juices, and must be fought with "contact insecticides" which will kill them in other ways.

2. PLANT DISEASES

Fungi or bacteria may be the cause of the trouble if you are unable to discover actual insects about a troubled plant. These are controlled with spraying or dusting of the plant. In some cases, the soil must be disinfected. In still other cases, when you find that the disease is transmitted by an insect from one plant to another the insect has to be controlled.

3. MISCELLANEOUS PLANT PESTS

These include gophers, slugs, snails squirrels, etc.

HOW TO IDENTIFY GARDEN PEST TROUBLES

The best way is to know the appearance of a plant after it has been attacked, and to have pictures and descriptions of each pest. Remembering here the different kinds of pests, biting and sucking insects, fungous and bacterial diseases, and the miscellaneous pests, we shall talk about each in turn. On the following pages you will find tables listing the varieties of pests you may have trouble with, what harm they do and how to control them.

BITING INSECTS

When you come across leaves which seem to have been eaten away in part or entirely, or roots, tubers, or another part of a plant with an eaten look, your garden is being visited by biting insects. Some biters burrow into fruit and lay eggs there. Some tunnel into other parts of the plant.

Most of the biting insects can be killed with lead arsenate. All the control measures given in this chapter are sold under various trade names.

In the table, you will notice, most of the biting insects are beetles, caterpillars, grasshoppers and worms and the chief remedy is lead arsenate spray or dust.

SUCKING INSECTS

Some times you will shake a flower and tiny specks like pepper will fall out. Or you may see a leaf unnaturally curled, and sticky to touch. At other times a tiny insect will jump from a leaf if you disturb it.

You may see a cluster of things like minute barnacles or little eggs clinging to a stem or twig. Or you may not see any actual insects, but only a strange yellowing of the leaves, tender young leaves stunted and curling, distorted buds, discoloring of the plant, blackening, fungus growing in a sticky mass of honeydew, stunted flowers, or little galls on stems or the upper parts of leaves.

When you notice any of these signs, the trouble is some sucking insect or other. None of them do all of these things; each has its specialty.

Note in the table on the next page that a combination oil nicotine spray is the remedy in most cases here, and that the pests are spiders, and the tiniest mites, bugs or flies.

FUNGOUS DISEASES

If there are gray, powdery growths on your plants; tiny red, brown or black pustules (elevations looking like pimples or blisters); holes in the leaves, red spot on the fruit; dying buds; soft brown spots; curled, distorted leaves; black spots on your Roses; or premature falling of leaves—the trouble is probably fungi (microscopic plant organisms, living as parasites on your plants).

Note, in the table, the importance of Bordeaux mixture in controlling fungous diseases.

BACTERIAL DISEASES

When your leaves, twigs or branches die in an unaccountable manner, they may be attacked by some bacterial disease or blight. Potatoes, tomatoes and celery so attacked may sometimes be controlled with Bordeaux mixture. Peaches and walnuts are probably doomed, however, although you can try the same control measure with them. It is sometimes effective with peaches.

MISCELLANEOUS PLANT PESTS

Most of the time you will see them "in person," and so will know that they are around. Snails can either be hand picked and stepped on (wear gloves if you are squeamish about handling them); or can be killed with poisoned bait.

Other pests which succumb to poisoned bait—and usually one preparation will do for them all—are sow bugs, slugs, and earwigs. Special commercial ant poisons are on the market, one of the best being light poison which does not kill the ants at once. They are attracted to it, drink their fill, return to their hills and feed it to the young; thus the entire colony is exterminated at its source.

Moles are caught with regular mole traps. Squirrels, gophers and rabbits are discouraged with poisoned barley, which you can also buy. Success has been had in gopher control with fumigating bombs which are ignited, dropped in the holes quickly, and the holes covered at once. Gophers, however, are best trapped.

PEST CONTROL CHART

Use Sprays and Dusts For Healthy Flowers and Vegetables

Plants	Description of Injury, Insect or Disease	Insect or Disease	Spray or Dust	How and When to Apply
FLOWERS Aster Begonia Calendula Canna Camellia Carnation Chinese Lantern Cineraria Coleus Cosmos Chrysanthemum Dahlia Daisy Delphinium Fern Foxglove Fuchsia Gardenia Geranium Golden-Glow Gladiolus Hibiscus Hollyhock Lantana Morning-Glory Nasturtium Pansy Peony Petunia Phlox Primula Rose Snapdragon Sweet Pea Vlolet Zlnnia	Aphids are small soft-bodied sucking insects 1/10 inch long, clustered together on flowers, leaves and stems.	Aphid Thrips Leafhopper	Aphis Spray Black Leaf 40 Evergreen Rotenone Garden Guard	Spray thoroughly, make sure to hit the insects to be controlled; repeat sprays every few days.
	Tiny black or yellowish elongated winged or wingless insects. Thrips rasp flowers and leaves, causing them to brown and die.			The nicotine only is effectlve against these insects. Be sure to hit the insects with it. The powder can be added according to directions to control any chewing insects or blight which may be present.
	Leafhoppers are wedgeshaped insects ⅛— ⅜ inch long, winged or wingless; rear legs are very long. When disturbed they walk sideways.			
	Beetles are hard-shelled insects of various colors and sizes which eat into or entirely consume leaves and flowers.	Beetle Slug Caterpillar	Emo-Nik Black Leaf 40 Aphis Spray	Spray upon insects. Be sure to hit them.
	Slugs are soft-bodied, slimy and legless. They rasp away upper leaf surfaces or eat holes in them.			Apply a heavy spray upon insects and entire plant; both nicotine and powder are effective.
	Caterpillars are fuzzy or hairless worm-like insects eating away at buds, flowers and foliage. They may occur singly or in colonies rolling leaves together or spinning webs.			Broadcast the dust over the insects and plant from shaker carton or hand duster.
	Cutworms pierce or cut off leaves or main stem of seedlings near the ground line.	Cutworms Sowbug Slug Grasshopper	Diamond Naphthalene Flakes Meta Snarol	Spread a thin band of Bait-M on the ground around the plant to be protected. For larger area spread small windrows criss-cross over like a checkerboard with two foot squares, or broadcast.
	Sowbugs are dark grey oval-shaped, 14 legged creatures ½ inch long; if disturbed they curl up like a pill. Sowbugs feed upon seedlings and tender plants.			
	Slugs are soft-bodied, slimy and legless, rasping away at upper leaf surfaces or eating out holes.			
	Rust is a disease that causes leaves or stems to be rusty brown or yellowish, in streaks or in patches.	Rust Mildew Leafspot	M-R-S Dusting Sulphur Garden Sulphur Kopper Queen	Scatter about on plant, thoroughly cover all parts. Repeat every 10 days. Nicotine also can be added to control certain insects.
	Mildew shows powdery or felt-like patches on leaves and stems, causing leaves to curl up and drop.			Dust from shaker carton or hand duster over entire foliage, completely covering all leaves. Repeat before rain periods or every few days.
	Leafspot is the cause of small spots on leaves or masses of spots, usually brown. Sometimes centers of spots fall out leaving leaf-holes.			
	Ants are six-legged insects familiar to all.	Ant	Ant-Kill (several good brands)	Ant-Kill is effective against sweet-eating varieties of ants. For grease ants put bacon rind with syrup.
VINES AND SHRUBS Honeysuckle Lilac Cedar Snowball Privet Hydrangea Spirea Grape Ivy Virglnia Creeper	Ahplds are small, soft-bodied sucking insects 1/10 inch long, clustered together on flowers, leaves and stems.	Aphid Thrips Leafhopper	Aphis Spray Black Leaf 40 Evergreen Emo-Nik Rotenone Garden Guard	Spray thoroughly, make sure to hit the insects to be controlled; repeat sprays every few days.
	Tiny black or yellowish elongated winged or wingless insects, thrips rasp flowers and leaves causing them to brown and die.			The nicotine only is effective against these insects. Be sure to hit the insects with it. The powder can be added according to directions to control any chewing insects or blight whlch may be present.
	Leafhoppers are wedgeshaped insects ⅛— ⅜ inch long, winged or wingless; rear legs are very long. When disturbed they walk sideways.			
	Beetles are hard-shelled insects of various colors and sizes which eat into or entirely consume leaves and flowers.	Beetle Slug Caterpillar	Dlamond Naphthalene Flakes Meta Black Leaf 40 Garden Guard	Spray thoroughly; make sure to hit the insects to be controlled; repeat sprays every few days.
	Slugs are soft-bodied, slimy and legless. They rasp away upper leaf surfaces or eat holes in them.			Apply a heavy spray upon insects and entire plant; both nicotine and powder are effective.
	Caterpillars are fuzzy or hairless worm-like insects eatlng away at buds, flowers and foliage. They may occur singly or ln colonies rolling leaves together or spinning webs.			Broadcast the dust over the lnsects and the plant.
	Scale lnsects are minute bark-llke scales on branches, stems, or leaves.	Scale	Dry Lime & Sulphur (dormant season) Bordeaux (growing season)	Dormant spray (sprlng). (Lime Sulfur discolors palnted surfaces.) Growth spray (summer).
	Leaves have minute silken threads and webs on the undersides, in which are tlny red spiders. Leaves become speckled, brown and drop off.	Red Splder Mlte	Evergreen Emo-Nik Dustlng Sulphur	Spray on pests and on under leaf surfaces; repeat weekly. Dust thoroughly from slfter carton or hand duster, getting dust into places where red spiders are feeding; repeat frequently.

PEST CONTROL CHART

Use Sprays and Dusts For Healthy Flowers and Vegetables

Plants	Description of Injury, Insect or Disease	Insect or Disease	Spray or Dust	How and When to Apply
VINES AND SHRUBS (Continued)	Rust is a disease that causes leaves or stems to be rusty brown or yellowish, in streaks or in patches.	Rust Mildew Leafspot	M-R-S Dusting Sulphur Kopper Queen	Spray thoroughly on plant, covering all parts. Repeat every 10 days. Nicotine also can be added to control certain insects.
	Mildew shows powdery or felt-like patches on leaves and stems cause leaves to curl up and drop.			Dust from shaker carton or hand duster over entire foliage, completely covering all leaves. Repeat before rain periods and every few days.
	Leafspot is the cause of small spots on leaves or masses of spots, usually brown. Sometimes centers of spots fall out leaving leaf-holes.			
VEGETABLES AND BERRIES Spinach Celery Beets Cabbage Cauliflower Melon Pepper Tomato Potatoes Currant Gooseberry Blackberry Raspberry	Ahipds are small soft-bodied sucking insects 1/10 inch long, clustered together on stems and leaves.	Ahpis	Aphis Spray Black Leaf 40 Evergreen Roterone Garden Guard	Spray on the insects, often. Spray on the under side of leaves until all insects are drenched.
	Leafhoppers are wedgeshaped insects ⅛— ⅜ inch long, winged or wingless; rear legs are very long. When disturbed they walk sideways.	Leafhopper		The nicotine only is effective against these insects. Be sure to hit the insect with it. The powder can be added according to directions to control any chewing insects or blight which may be present.
	Beetles are hard-shelled insects of various colors and sizes which eat into or entirely consume leaves and flowers.	Beetle Slug Caterpillar	Aphis Spray Evergreen Naphthalene Meta Garden Guard	Spray thoroughly, make sure to hit the insects to be controlled; repeat sprays every few days.
	Slugs are soft-bodied, slimy and legless. They rasp away upper leaf surfaces or eat holes in them.			Apply a heavy spray gun upon insects and entire plant.
	Caterpillars are fuzzy or hairless worm-like insects eating away at buds, flowers and foliage. They may occur singly or in colonies rolling leaves together or spinning webs.			Non-poisonous to humans—safe on edibles. Broadcast the dust over the insects and plant.
	Cutworms pierce or cut off leaves or main stem of seedlings near the ground line.	Cutworms Slugs Grasshoppers	Meta Snarol Bait-M Naphthalene	Spread a thin band of Bait-M on the ground around the plant to be protected. For larger area spread small windrows criss-cross over like a checkerboard with two foot squares, or broadcast.
	Slugs are soft-bodied, slimy and legless, rasping away at upper leaf surfaces or eating out holes.			
	Leaves have minute silken threads and webs on undersides, in which are tiny red spiders. Leaves become speckled, brown and drop off.	Red Spider Mite	Emo-Nik Evergreen	Spray on pests and on under leaf surfaces; repeat weekly.
				Dust thoroughly from sifter carton or hand duster, getting dust into places where red spiders are feeding; repeat frequently.
	Rust is a disease that causes leaves or stems to be rusty brown or yellowish, in streaks or patches.	Rust Mildew Leafspot Blight	Kopper Queen Dusting Sulphur	Spray thoroughly on plant, covering all parts. Repeat every 10 days. Nicotine also can be added to control certain insects.
	Powdery or felt-like patches on leaves and stems cause leaves to curl and drop.—Mildew.			Dust from sifter carton or hand duster over entire foliage, completely covering all leaves. Repeat before rain periods and every few days.
	Leafspot is the cause of small spots on leaves or masses of spots, usually brown. Sometimes centers of spots fall out leaving leaf-holes.			
SHADE TREES Ash Beech Birch Box Elder Catalpa Chestnut Elm Hickory Locust Maple Oak Sycamore	Numerous soft-bodied sucking insects (aphids) 1/10 inch long, clustered together on twigs and leaves.	Aphid	Aphis Spray, Black Leaf 40, Evergreen, Emo-Nik, Garden Volk, Garden Guard,	Spray thoroughly, make sure to hit the insects to be controlled; repeat sprays every few days.
	Bright red or red bordered insects, winged or wingless. Box-Elder plant-bugs suck sap from tree shoots and leaf stems.	Box-Elder Plant Bugs	Emo Emo-Nik	Spray thoroughly, make sure to hit the insects to be controlled; repeat sprays every few days.
	Very small scales varying in size from nearly visible to ⅛ inch long, found on leaves, twigs and bark.	Scale	Dry Lime-Sulphur Emo	Dormant spray (early in spring). Lime Sulfur discolors painted surface.
				Dormant spray (early in spring).
	Caterpillars are hairy or hairless worm-like insects which eat holes in foliage.	Caterpillar	Arsenate of Lead	Spray the trees just before the spring leaves attain mature growth, repeat when necessary.
	Hard-shelled oval or oblong shaped insects eating holes in leaves or partly consuming them.	Beetles		
EVERGREENS Arbor Vitae Balsam Cedar Hemlock Larch Pine Spruce	Numerous soft-bodied sucking insects (aphids) 1/10 inch long, clustered together on twigs and needles.	Aphid	Same as other Aphis Control	Dormant spray (early spring).
				Growth spray (summer).
	Very small scales vary in size and color. They are found in masses about needles.	Scale	Emo	Dormant spray (early in spring).
	Tiny mites cause minute spider web tangles about leaves causing them to dry up and the tree to die.	Red Spider	Emo-Nik Evergreen	Apply forcefully with a good power spray. Repeat frequently in 5 days intervals.
	Worms that eat needles at the base, causing needles to drop out; or needles become gnawed and killed.	Caterpillar	Arsenate of Lead	Spray the infested area, often.

CONSULT YOUR LOCAL DEALER OR COUNTY AGENT

Common and Botanical Names of Flowers and Plants

Adam's Needle ..... *Yucca
African Blue Daisy ..... Arctotic Grandis
African Golden Daisy..... Dimorphoteca
African Lily ..... *Agapanthus
Allegheny Vine ..... Adlumia
Amethyst ..... Browallia
Asparagus Fern ..... Asparagus Plumosus
Australian Pea Vine ..... Dolichos Lignoses

Baby Blue Eyes ..... Nemophila Insignis
Baby Primrose ..... Primula Malacoides
Baby's Breatb ..... Gypsophila
Bachelor's Button ..... Centaurea Cyanus
Balloon Vine ..... Love in A Puff
Balsam Apple ..... Momordica Balsamina
Barberry ..... *Berberis
Basket of Gold ..... Alyssum Saxatile
Beard Tongue ..... Pentstamon
Bell Flower ..... Campanula
Black Eyed Susan ..... Thunbergia
Blanket Flower ..... Gaillardia
Blanket of Snow ..... Alyssum, Sweet
Blazing Star ..... Liatris
Bleeding Heart ..... *Dielytra
Blue Bottle ..... Centaurea Cyannus
Bluets ..... Centaurea Cyannus
Boston Ivy ..... Ampelopsis Veitchii
Boxwood ..... *Buxus
Bridal Wreath ..... *Spirea Prunifolia
Bush Poppy ..... Hunnemannia
Butterfly Bush ..... *Buddleia
Butterfly Flower ..... Schizanthus
Butterfly Pea ..... Centrosema
Buttonwood ..... *Plantanus Orientalis

California Poppy ..... Eschscholtzia
Canary Bird Flower ..... Tropaeolum Canariense
Candytuft ..... Iberis
Canterbury Bells ..... Campanula Medium
Cape Jasmine ..... *Gardenia Florida
Cardinal Climber ..... Ipomoea Quamoclit
Cardinal Flower ..... Lobelia Cardinalis
Castor Oil Beans ..... Ricinus
Catchfly ..... Silene
Cbinese Bell Flower ..... Platycodon
Chinese Lantern Plant..... Physalis Franchetti
Clove Pink ..... Dianthus Plumarius
Cockscomb ..... Celosia
Columbine ..... Aquilegia
Cone Flower ..... Rudbeckia
Coral Bell ..... *Heuchera
Cornflower ..... Centaurea Cyanus
Cornflower Aster ..... Stokesia
Cowslip ..... Primula
Crane's Bill ..... *Geranium
Cypress Vine ..... Ipomoea Quamoclit

Daisy, English ..... Bellis Perennis
Dogwood ..... *Cornus Florida
Dusty Miller ..... Centaurea Gymnocarpa
Dusty Miller ..... Cineraria Candidissima
Dutchman's Pipe ..... Aristolochia

Edelweiss ..... Gnaphalium
Elepbant's Ears ..... *Caladium
Englisb Daisy ..... Bellis Perennis
English Primrose ..... Primula Vulgaris
Evening Primrose ..... Oenothera
Everlastting Pea ..... Lathyrus Latifolius
Everlastings ..... Acroclinium
Everlastings ..... Helichrysum
Everlastings ..... Rhodanthe
Everlastings ..... Statice

Fairy Lily ..... *Zephyranthes
Feverfew ..... Matricaria
Flax ..... Linum
Fleur De Lis ..... *Iris Germanica
Floss Flower ..... Ageratum
Flowering Maple ..... Abutilon
Flowering Tobacco ..... Nicotiana
Forget-Me-Not ..... Myosotia
Four O'Clock ..... Mirabilis
Foxglove ..... Digitalis

Garden Heliotrope ..... Valerian
Gentian ..... Gentiana
Geum ..... Avens
Globe Amaranth ..... Gomphrena
Gold Dust ..... Alyssum Saxatile
Golden Bell ..... Forsythia
Golden Cbain ..... *Cytisus
Golden Feather ..... Pyrethrum Aureum
Golden Rod ..... Solidago
Grass Pinks ..... Dianthus Plumarius

Harebell ..... Campanula Carpatica
Hollyhocks ..... Athaea Rosea
Honesty ..... Lunaria
Hops, Japanese ..... Humulus
Horn of Plenty ..... Datura Cornucopia
Hyacintb Bean ..... Dolichos

Ice Plant ..... Mesembryanthemum
Indian Shot ..... Canna

Jacobean Lily ..... *Amaryllis Formosus
Japanese Pinks ..... Dianthus Heddewegii
Jerusalem Cherry ..... Solanum
Job's Tears ..... Coix Lachryma
Joseph's Coat ..... Amaranthus Tricolar

Kenilwortb Ivy ..... Linaria Cymbalaria
Kudzu Vine ..... Thunbergia Pueraria

Lace Flower ..... Didiscus
Lady's Ear Drop ..... Fuchsia
Lady's Slipper ..... Balsam
Larkspur ..... Delphinium
Lavender ..... Lavandula
Leadwort ..... *Plumbago
Lemon Verbena ..... *Aloysia Citriodora
Lily of the Valley ..... *Convallaria
Love Grass ..... Nemophila
Love in a Mist ..... Nigalla
Love Lies Bleeding ..... Amaranthus Caudatus

Maiden Hair Fern ..... Adiantum
Mallow ..... Hibiscus
Marvel of Peru ..... Mirabilis
Matilija Poppy ..... Romneya Coulteri
Meadow Rue ..... *Thalictrum
Mexican Fire Bush ..... Kochia
Mexican Fire Plant ..... Euphorbia Hetorophylla
Mignonette ..... Reseda
Mock Orange ..... *Philadelphus
Monk's Hood ..... *Aconitum
Moonflower ..... Iponoca
Mountain Rose ..... Antigonon
Morning Glory ..... Convolvulus
Mourning Bride ..... Scabiosa
Musk Plant ..... Mimolus Moschatus
Myrtle ..... Vinca Minor

Nasturtium ..... Tropaeolum
Night Scented Stock ..... Matthiola

Orange Daisy ..... Dimorphoteca

Painted Tongue ..... Salpiglossus
Pampus Grass ..... *Gynerium
Pansy ..... Viola
Passion Flower ..... Passiflora
Peach Bells ..... Campanula Persicifolia
Periwinkle ..... Vinca
Pheasant's Eye ..... Adonis Aestivalis
Pin Cushion ..... Scabiosa
Pinks ..... Dianthus
Polyanthus ..... Primula
Poppy ..... Papaver
Pot Marigold ..... Calendula
Prince's Featber ..... Amaranthus Cruentus

Quaking Grass ..... Briza

Ragged Robin ..... Lychinis
Red Hot Poker ..... Tritoma
Rock Cress ..... Arabis
Rocket ..... Hesperia
Rose Campion ..... Lychnis
Rose of Heaven ..... Agrostema
Rose of Sharon ..... Althaea

Sand Verbena ..... Abronia
Satin Flower ..... Godetia
Scarlet Sage ..... Salvia Splendens
Sea Bugloss ..... Anchusa
Sea Lavender ..... Statice
Sea Pink ..... Armeria
Smilax ..... Myrsiphyllum Asparagoides
Snapdragon ..... Antirrhinum
Sneezewort ..... Achillea
Snow of Summer ..... Cerastium
Snowball ..... *Viburnum
Snow on the Mountain.. Euphorbia Variegata
Speedwell ..... *Veronica
Spider Plant ..... Cleome
Star of Bethlehem ..... *Ornithogalum
St. Bruno's Lily ..... *Anthericum
Stocks ..... Gilliflower
Stone Crop ..... Sedum
Straw Flower..... Acroclinium
Straw Flower ..... Helichrysum
Straw Flower ..... Rhodanthe
Straw Flower ..... Statice
Summer Cypress ..... Kochia
Sunflower ..... Helianthus
Sunplant ..... Portulaca
Swan River Daisy ..... Brachycome
Sweet Rocket ..... Hesperis
Sweet Shrub ..... Calycanthus
Sweet Sultan ..... Centaurea Imperialis
Sweet William ..... Dianthus Barbatus

Tagetes ..... Marigold
Tassel Flower ..... Cacalia
Thimble Flower ..... Gilia
Thrift ..... Armeria
Tobacco ..... Nicotiana
Transvaal Daisy ..... Gerbera
Trumpet Flower ..... Datura
Trumpet Vine ..... Bignonia

Umbrella Tree ..... Catalpo

Venus' Looking Glass .... Campanula Speculum
Violet ..... Viola Odorata
Virgin's Bower ..... Clematis
Virginia Creeper ..... Ampelopsis Quinquefolia

Wallflower ..... Cherianthus
Wind Flower ..... Anemone
Wormwood ..... Artemesia Absynthium

Yarrow ..... Achillea
Youtb and Old Age ..... Zinnia

*Plants generally grown from bulbs or rooted stocks.

Flower Planting Guide

An understanding of the natural adaptation of certain plants to certain purposes is necessary for successful planting. Too many failures are the result of trying to grow shade-loving plants in full sun, acid-loving plants in limestone regions and swamp-margin plants on dry hillsides. A little study of plant requirements will obviate losses, and improve the vigor and naturalness of the plant groupings. Some of the most common types of plants, with suggestions as to various situations in which they can be used, follow.

Annuals

Annuals are particularly useful to the home-gardener who wishes to have a great display of bloom for small expenditure. As they are grown each year from seeds, and bloom the same season, they are particularly valuable for the new garden in which perennials have not had time to become established. They also bloom most prolifically in midsummer when blossom effect from perennials is relatively sparse. Longer-lived plants which are grown as annuals are treated here as such.

FOR SUN AND DRY SOIL. Most annuals like full sun, and a few are particularly useful for hot, dry locations where the midsummer sun bakes out most other plants:

Portulaca
California Poppy
Shirley Poppy
Zinnia

FOR PARTIAL SHADE. Some which will thrive and sometimes bloom longer in partial shade include:

Nasturtium
Snapdragon
Pansy
Sweet William
Balsam
Clarkia
Nemophila
Annual Stock

FOR CUTTING. Annuals are prolific and constant in bloom and vary widely in color and size, so they naturally become the chief reliance in the cutting garden or border. Those particularly useful in view of their ease of growth and long season of bloom are:

Snapdragon
Calendula
Coreopsis
Cosmos
Larkspur
California Poppy
Gypsophila
Ageratum
Heliotrope
Sweet Pea
Gaillardia
Zinnia
Blue Laceflower
Annual Chrysanthemum
Aster
Marigold
Clarkia
Lupine
Verbena
Nasturtium
Annual Phlox
Salpiglossis
Marigold
Stock

FOR CONTINUOUS BLOOM. Annuals which reach flowering size in a short period may be given several sowings, 2 or 3 weeks apart, during the summer. These include:

Gypsophila
Cornflower
Poppy
Phlox
Coreopsis
Candytuft
Mignonette

Sweet Alyssum and Edging Lobelia may be cut back to produce later bloom.

FOR WINDOW AND PORCH BOXES. As the plants in boxes must usually be replaced each year, the use of annuals here is inevitable.

For center of box—
Zinnia
Marigold
Blue Salvia

To trail over edge—
Sweet Alyssum
Verbena
Petunia
Thunbergia
Lobelia

ANNUAL VINES: These offer an excellent group of plants for covering unsightly fences or walls quickly, or for filling bare spots against a new house or fence while the flower perennial vines are becoming cstablishcd. The most interesting of the annual vines are:

Morning glory—
HeavenlyBlue
Scarlet O'Hara
Moonflower
Scarlet Runner Bean
Canary Bird Vine
Cardinal Climber
Gourds—mixed
Nasturtium—tall mixed

Perennials

Perennials are those plants that bloom annually, their roots lasting from year to year. Many may be grown from seeds; others are propagated by division of existing roots or by cuttings. They include many of our finest garden flowers and have the advantage of needing less yearly attention than annuals, in order to yield a succession of bloom from early spring until frost. Most flowering plants necd sun, and except for those listed for shade, perennials should have at least a half day's full sun.

TO INSURE SUCCESSION OF BLOOM (In order of blooming season):

Bleeding Heart
Columbine
Peony
Phlox
Oriental Poppy
Japanese Iris
Delphinium
Aster
Chrysanthemum

FOR SHADE. Few of our garden perennials will succeed in dense shade. Where no sun penetrates, the list must be restricted largely to those plants which are native to thick woodlands. Where there are two or three hours of sun, or flickering shade from trees, certain of our garden favorites will bloom satisfactorily.

Dense Shade

Lily-of-the-Valley
Trillium
Violets (native species)
Plaintain Lily

Semi-Shade

Japanese Anemone
Foxglove
Bleeding Heart
Primrose

For Light, Poor Soil

Gaillardia
Flax
Lupine
Iceland Poppy
Moss-pink Phlox
Yucca

For Heavy Clay Soil

Tiger Lily
Perennial Pea
Siberian Iris

FOR CUTTING. Perennials form an important part of the well-established cutting garden. Many may also be cut from the border to induce further bloom. Among those that are useful especially as cut flowers are the following:

Japanese Anemone
Aquilegia
Shasta Daisy
Lily-of-the-Valley
Coreopsis
Delphinium
Peonies
Sweet William
Baby's Breath
Helenium
Coral-bells
Iris—all species
Gold-banded Lily

EASILY GROWN FROM SEED. While some perennials are most satisfactorily increased by division or cuttings, others are easily grown from seed. A few will bloom the first year if seed is sown early indoors. The rest can be counted on for flowers the second summer. Among those thus easily raised from seed are the following:

Golden Marguerite
Aquilegia
English Daisy
Shasta Daisy
Delphinium
Digitalis
Gypsophila
Candytuft
Regal Lily
Iceland Poppy
Oriental Poppy
Balloon-flower
Salvia

CREGO ENCHANTRESS

ASTERS are among the most useful, decorative, late summer plants for the amateur gardener. They are easily grown requiring only a normal amount of care for the abundance of flowers they will give in return. In warm sections seed can be sown directly in the garden after first frosts. Here in the Northwest they should be started in flats indoors and plants set out about the middle of May or thereabouts.

Asters prefer a rich soil rather than a sandy loam. They should be cultivated regularly and watered before the soil becomes too dry. Every plant must have plenty of space to develop fully without being crowded. The tall branching variety should be set about 15 to 18 inches apart each way and the medium growing sorts 10 to 12 inches apart, while the dwarf types can be as close as 8 to 10 inches.

Few if any important flowering plants are as seriously attacked by disease as the aster. The most important of these diseases is the aster wilt.

Aster wilt or stem rot is caused by specific parasitic fungus. The fungus lives in the soil and is transmitted to the aster plant. It enters through the root system and gradually creeps up the stem through the bascular tissue and will eventually destroy the food and water bearing channels of the plant. When once introduced into the soil the fungus persists indefinitely and may attack aster plants which are grown there even years later.

Super Giant El Monte Aster. Deep glowing crimson blooms composed of daintily interlaced bloom-like petals somewhat similar in form to Giant California, but earlier and much larger. The huge flowers are borne on unusually heavy, non-lateral base-branching stems, earlier in blooming than other types. **Packet, 10c.**

Super Giant Los Angeles Aster. Same type as the El Monte, however, the color is a pure shell pink blending to creamy pink in the center. **Packet, 10c.**

Improved Crego Wilt-Resistant Aster. Beautiful, large colorful flowers 4 to 5 inches in diameter. Blooms are fully double, about 2½ inches thick, carried on long, strong stems. The individual petals are gracefully curled and twisted, giving the whole flower an artistic appearance not unlike a Japanese Chrysanthemum. Plants grow about 2½ feet tall and bloom from late August until the middle of October. We offer the following varieties: White, shell pink, deep rose, crimson, orchid, azure blue, purple, lavender, peach blossom and mixed. **Packet, 10c.**

Improved California Sunshine Aster. This fascinating new aster type—rightly called the most beautiful in the world—is fast becoming the most popular of all asters. The flowers are 4 to 5 inches across, are composed of a single row of loosely placed outer petals, which contrast with the unique yellow quill-like center disc. Stems are long and heavy, on plants 2 to 3 feet in height. We offer the following varieties: White, pink, lavender, violet, carmine and mixed. **Packet, 10c.**

Golden Sheaf Aster. The deepest yellow aster yet offered and the only pure yellow aster of giant size. The flowers are fully double with an attractive crest-like center of good substance and depth of petal. **Packet, 10c.**

Improved Giants of California Aster. Curled and interlaced aster plants are somewhat taller than the Super-Giant and carry a few lateral branches. They reach a height of about 3 feet and usually carry from 8 to 10 or even 12 flowers per plant. The flowers are large and full, 4 to 5 inches across, with graceful, curly-tipped petals. Late bloomers, so seed should be started early indoors in flats. We offer the following varieties: White, peach blossom, light blue, deep rose, dark purple and mixed. **Packet, 10c.**

Improved Queen of the Market. Have been developed especially for cut flowers and border work, with the result that stems are comparatively long—about 10 to 12 inches—and exceedingly strong. The plants are about 18 to 20 inches tall and bear generous quantities of medium sized blossoms. We offer the following varieties: White, light blue, deep rose, scarlet, purple, peach blossom and mixed. **Packet, 10c.**

Crego Enchantress Aster. This variety offers an entirely new color in asters, a luscious shade of lively salmon rose distinct from all other colors yet developed. The blooms are large and graceful. The plants are free flowering, branching and wilt-resistant. They will bloom until late September. **Packet, 25c.**

AGERATUM Small balls of color in sizeable clusters. Constant bloomer from spring till late fall. These plants like rich, light, well-fertilized loam. Combines exceedingly well with Columbine, Scabiosa, Delphinium, French Marigold, Salpiglossis. We offer the following varieties: **Tall Blue Perfection,** 2 feet tall; **Blue Perfection Medium,** blue, large flowers; semi-dwarf; **Little Dorrit,** white dwarf; **Little Blue Dorrit,** light blue dwarf. **Packet, 10c.**

ALSSUM

White, sweet-scented edging and basket plants. For border sow thickly. Grows best in rich, light, well fertilized loam. Combines exceedingly well with Violets, Foreget-me-nots, Gypsophila. We offer the following varieties: **Benthami Martimum,** white, sweet scented, grows 1 foot tall; **Little Gem,** pure white, grows 6 inches tall; **Lilac Queen,** lovely lavender, grows 6 inches tall; **Dwarf White,** grows 3 inches tall; **Gold Dust** (saxatile compactum), a perennial yellow type, growing 1 foot tall; **Probumbens** (Carpet of Snow), excellent for rockeries or covering small areas. **Packet, 10c.**

AMARANTHUS

(hA). Does well in hot sunny places. 1 to 2 feet tall. Related to Cockscomb. Grown for the vividly colored foliage and showy flower clusters. Does best in moderately rich light soil. Position—plant in borders in front of shrubbery. Varieties: **Caudatus** (Love Lies Bleeding), crimson drooping flower spikes, tall. **Joseph's Coat** (tri-color) red, yellow and green foliage. **Tall. Mixed Shades. Packet, 10c.**

CALENDULA

(Pot Marigold). (hA). Does well in sunny or partial shade. Hardy, stout growing, with entire bright-green, thickish leaves. Continual bloomer. Grows in any soil, but responds to moderately rich loam. Grouping—for bedding out; in front of shrubbery; for the mixed border, combining with Delphinium, Shasta Daisy, Salvia or Alyssum. Varieties: **Chrysantha,** buttercup yellow with incurved petals; **Orange Shaggy,** deep orange shading to lighter center; **Radio**, deep orange with quilled petals; **Balls Gold,** golden yellow, light center; **Balls Orange,** bright orange shades; **Campfire,** deep orange with scarlet sheen; **Lemon Queen; Double Mixed. Packet, 10c.**

CALLIOPSIS

(hA). Graceful for border plants, supplying throughout the summer an abundance of showy flowers of yellow, crimson and maroon. Tall varieties excellent for cut flowers. Grows in any soil, but prefers a rich, light, well fertilized loam. Grouping—with Coreopsis, Deep-blue Delphiniums, Snapdragons and Salvia. Varieties: **Tall Single Mixed; Tall Semi-Double Mixed; Dwarf Crimson King,** deep crimson with yellow backs; **Drummondi** (Golden Wave), golden yellow center; **Dark Brownish Red; Gold Crest. Packet, 10c.**

CANDYTUFT

(hA). Very showy, branching plant. Excellent for beds, masses, rock gardens and cut flowers. Blooming prolifically in spring, and during other seasons by successive sowing of seed. Grows in ordinary soil. Varieties: **Coronaria,** giant white hyacinth flowered; **Umbellata Type,** crimson, lilac, rose, cardinal, white, flesh pink, rose carmine and mixed. **Packet, 10c.**

DOUBLE SUNBURST COREOPSIS

CANTERBURY BELLS

(hB). The real bell flower. Branching plants heavily loaded with large pendant bells. Both in plain and cup and saucer types. Excellent for flower borders and rockery background. Grouping—with Scabiosa, Perennial Aster and Lupine. Varieties: **Campanula Medium,** single mixed, double mixed; **Calycanthema** (cup and saucer), light blue, dark blue, white, rose pink and mixed. **Annual Mixed.** Blossoms from seed in less than six months. **Packet, 10c.**

COREOPSIS

(grandiflora). (hP). A spreading plant, with long, smooth, dark green lanceolate leaves; large, daisy-like, golden yellow flowers. Plants grow from 1½ to 2 feet tall. Drought resistant; grows in any soil but best in moderately fertilized, light loam. Grouping—Blue Cornflower, Blue Salvia, Delphinium and Blue Larkspur. Varieties: **Double Sunburst,** large golden yellow, fully double; **Lanceolata,** golden yellow, semi-double. **Packet, 10c.**

CHRYSANTHEMUM

(hA). Attractive long-stemmed summer flowering plant, wide varieties of color. Sow seeds in flats and transplant when soil is warm. Height from 1 to 2 feet. Varieties: **Coronarium,** tall double yellow; Tall double lemon; Tall double mixed; **Carinatum,** single mixed. **Packet, 10c.**

DWARF GODETIA

CLARKIA

(Rocky Mountain Garland). (hA). Grows from 12 to 18 inches tall and does well in sunny or light shade. Branching, erect plant, with smooth, light-green leaves. Furnishing an abundance of cut blooms as well as attractive green foliage. Grows in ordinary light garden loam. Grouping—plant with Larkspur, Pansies, Nicotiana or Virginia Stocks. Varieties: **Scarlet Queen, Salmon Queen, Firebrand, Brilliant,** also **Single** and **Double Mixed. Packet, 10c.**

COLUMBINE

(Aquilegia). (hP). Erect, branching plant, with long, slender stems. Will thrive in almost every situation, preferring partial shade and considerable moisture. Should be sprayed often to prevent aphis. Grouping—with Delphinium, Perennial Candytuft, Scabiosa, Stocks and Snapdragons. Varieties: **Mrs. Scott Elliott,** long spurred, **packet, 15c; Pink Shades (15c); Blue Shades (15c); Silver Queen (15c); Copper Queen (15c); Double and Single Mixed, packet, 10c.**

COSMOS

(hA). Furnish an abundance of cut blooms during the early flower season. Seed sown in the open ground in April should bloom in July. Transplant not less than 18 inches apart. Pinching out tops when plants are a foot high makes them bushy and sturdy. Grow best in moderately rich, sandy loam. Grouping—plant between shrubs; in the background of mixed border, combining with Shasta Daisy, Lavender, Poppy and Regal Lily. Varieties: **Orange Flare,** deep orange, blooms early; **Klondyke,** orange; **Early Double Crested** (anemone flowered), pink beauty, white queen and mixed; **Early Flowering Mammoth,** light pink, crimson, white and mixed. **Packet, 10c.**

CARNATION

(tP). Grows from 1 to 1½ feet. Easily winter killed, should be sown in flats during March. Transplant to other boxes when plants are 1 inch high, transfer to open soil when ground becomes warm. Carnations are best planted by themselves. Varieties: **Chabaud, Double Giant,** cardinal red, deep rose, flesh pink, white, mixed. (Annual) **Marguerite,** blooms four months from sowing, in mixed shades only. **Packet, 10c.**

DIGITALIS

(Fox Glove). (hP). 4 to 6 feet tall. Best in semi-shade, but will grow in sun. Long spikes that are crowded with large thimble-shaped blossoms, beautifully spotted. Grows in any soil, but prefers a rich, well fertilized, light garden loam; harbors sow bugs and snails. Work Naphthalene in soil around the plants. Grouping—in perennial border, alone or grouped with Hollyhock, Canterbury Bells, Shasta Daisy, Poppies, etc. Varieties: Purple, Rose, White and Mixed. **Packet, 10c.**

DELPHINIUM

(perennial Larkspur). (hP). 1 to 8 feet, according to species and kinds. Sun loving but endures slight shade. Blooms freely from May until late fall. Grows in a variety of soils, but prefers rich, well drained, rather light soils, fertilize with manures during growing period, complete plant food during blooming period; peat or leaf mold should be added to heavy soil, bone meal also helpful. Grouping—Columbine, Salpiglossis, Snapdragons, Stocks and Gladiolus. Varieties: **Wrexham Hollyhock Strain (15c); Gold Medal Hybrids (15c); Blackmore** and **Langdon Strains (35c); Bellamosa,** dark blue; **Belladonna,** light blue; **Finest Mixed. Packet, 10c.**

GAILLARDIA

(Blanket Flower). (A&P). 1 to 2 feet and spreading. Sun loving, but endures slight shade. Free blooming from early spring until late autumn frost. Gray-green, lobed, variable leaves with large daisy-like flowers. Very hardy, tolerating most soils, avoid fertilizer containing too much nitrogen; drought resistant, growing well on sandy banks. Grouping—plant in mixed border with dark blue Delphinium, russet Snapdragons, Salvia or Chrysanthemums. Varieties: (Perennials) **Dazzler,** maroon red, golden yellow; **Portola Hybrids** and **Mixed.** (Annuals) **Lorenziana,** double mixed; Single Mixed. **Packet, 10c.**

GODETIA

(Satin Flower). (hA). Grows from 1 to 2 feet tall in sunny or slightly shady places. Erect, slender branching plant; bright green, lanceolate leaves; large, expanded, single and double, satiny flowers. Seed should be sown in flats, transplanted when soil is warm. Grows in rather poor, sandy soil. Grouping—generally looks best alone, can be combined with Clarkia, Larkspur, certain Snapdragons and Stocks. Varieties: **Dwarf** rose, crimson, pink and mixed; **Tall Double Azalea Flowered** carminea, crimson, lavender, rich pink and mixed. **Packet, 10c.**

GEUM

(hP). 18 inches tall. Best in sun, but tolerates some shade. Hardy plants, with rosette formation of large, rough, strawberry-like leaves; long flower stalks, bearing double rose-like flowers. Sow seed in early fall or early spring, produces blooming plants in one year. Grows well in most light soils; attacked by soil pests, use Naphthalene Flakes in soil. Grouping—looks well with tall Lobelia, Michaelmas Daisy and Salvia. Varieties: **Mrs. Bradshaw,** scarlet; **Lady Stratheden,** golden yellow; **Mixed. Packet, 10c.**

GYPSOPHILLIA

(Baby Breath). (hA). These light airy plants have a hair-like foliage and produce a very lovely effect in the garden. Excellent with bouquets. Sow seed outdoors in early spring, repeat sowings for longer season of blooms. Thrive in moist moderately rich soil. Does well in rockeries. Varieties: **Grandiflora Alba,** true white; **Grandiflora Rosea,** pink; (Perennial) **Paniculata Alba,** single white. **Packet, 10c.**

HELICHRYSUM

(Monstrosum). (hA). Strawflower, growing from 2 to 3 feet tall. Stout branched plant, with oblong-lanceolate, bright-green, stiff leaves. This hardy annual makes an excellent winter bouquet with its red, yellow and white flowers. Sow in the open and transplant or thin out to 12 inches apart. Should be transplanted in separate bed by themselves. Varieties: **Golden Ball; Scarlet Ball; Salmon Queen; Silvery Queen; Canary Yellow; Violet Queen; Rose Carmine; Crimson; Double Mixed. Packet, 10c.**

GIANT IMPERIAL LARKSPUR

HOLLYHOCK

(Althaea). (hP). Grows 6 to 12 feet in sun or partial shade. Erect plants, with spire-like, simple, hairy stems; large, rough, heart-shaped leaves; large, regular, round blossoms of various bright colors. Grows in any soil, enrich with sheep manure. Subject to rust. Control rust with fine dusting sulphur. Excellent when interspaced among shrubs. Varieties: **Double,** salmon rose, maroon, rose pink, scarlet, yellow and mixed. **Single,** mixed. (Annual) **Single,** mixed. **Packet, 10c.**

LARKSPUR

(hA). Grows from 3 to 4 feet in sun and light shade. Erect, bushy plants, with light green, finely dissected leaves. For earlier blooms, plant in flats and transplant. Prefers a rich, well fertilized soil. Use a complete plant food. Grouping—Blue Lace Flower, Hybrid Delphiniums, Clarkias, Snapdragons and Candytufts. Varieties: **Giant Imperial Daintiness,** lavender; **White Spire; Lilac Spire; Blue Spire; Blue Bell; Carmine King** and **Miss California,** deep rose on salmon; exquisite **Rose Pink** and **Mixed. Tall Double Flowered,** bright rose, light blue, dark blue, white; **La France,** salmon pink; **Los Angeles,** brilliant pink and mixed. **Packet, 10c.**

LOBELIA

(hA). Grows 6 to 12 inches in sun or light shade. Trailing, or compact, bushy plants; variable, dark-green, bronzed, or light-green leaves. Irregular, small, tubular flowers, borne on slender pedicels, varying from light to dark blue. Excellent for borders, rock work and hanging baskets. For best results sow thinly in flats, covering with glass until seedlings are through soil. Transplant into a moist, well fertilized bed. Grouping—Gold Tuft, Iceland Poppy, Coreopsis, Siberian Wallflower and Pot Marigold. Varieties: **Crystal Palace,** dwarf dark blue; **Gracilis,** light blue trailing; **Sapphire,** dark blue, white eye, trailing. **Packet, 10c.**

MIGNONETTE

(Reseda). (hA). A branching plant, growing 6 to 10 inches high, with dark-green, spatulate leaves; close-set, spike-like racemes of very fragrant flowers, blooming normally in August, but also in other seasons. Can be grown easily from seed and should be planted in rich light loam. Grouping—this plant does exceedingly well with practically all annuals. Should be planted in places where color is needed. Varieties: **Odorata Grandiflora,** white; **Victoria Perfecta,** brilliant red. **Packet, 10c.**

MORNING GLORY

(hP). Plant in a sunny place. Grow from 6 to 18 feet, with slender climbing or twining stems. Variable, lobed or parted leaves with long, funnel-shaped flowers. A constant bloomer from June until September. Seed should be notched if hastened germination is desired. Does best in strong, fertilized soil with plenty of water. Plants should be cut down each fall for new growth. Varieties: **Major Tall Mixed; Japanese Fringed Mixed; Clark's Mammoth Blue,** sky blue shading to yellow in throat. **Heavenly Blue, Packet, 10c. Scarlet O'Hara (25c.)**

CROWN OF GOLD MARIGOLD

MARIGOLD

The African and French Marigolds are truly the amateur gardener's best friend. They are both hardy and colorful, which makes them ideal for all types of garden work. The Marigold usually begins to flower in the early part of July and continues to give out a succession of blossoms until the branches are destroyed by frost. When judiciously planted they add considerably to the gaiety of any flower bed, especially during the later months of the flowering season. The tall African Marigold is excellent when used as a background for medium-tall flowers of red and pink shades, or displaying its golden corollas among the evergreen shrubbery. While the more richly painted petals of the French Marigold is well calculated to contrast with the blue or purple varieties of Asters, since no plant displays a richer coloring of mahogany and gold.

These showy annuals may be raised by sowing seed in the open garden as soon as the soil is warm, but the more certain method of procuring fine plants is to sow the seed in flats or hot beds about the first of April. While the plants are developing in the flats they should have plenty of air circulation and moisture. When the young seedlings have reached a growth of about 6 inches and the soil has had an opportunity to warm up, they should be transplanted to their position in the garden.

During the past few years several new, outstanding varieties of Marigolds have been developed and we highly recommend several of these types for Northwest gardens. Growers have at last overcome the one poor feature of these beautiful flcwers. Namely, odor!

Marigold Crown of Gold. The plants of the Collarette Marigold Crown of Gold are absolutely uniform in every respect, including such desirable characteristics as height of plant, general habit of plant, time of flowering, and character, size, shape, and color of flower heads.

Individual plants deviate very little from the average height of 24 inches. The lower branches are clustered near the ground level, while the higher branches are sub-opposite or alternate on the main stem. The principal stem runs through the plant and determines its ultimate height. The lower-most lateral branches are ascending, but are only about three-fourths the length of the main stem so that the plant assumes a top-shaped habit. The plants are extremely floriferous, which gives to a plant in full bloom the appearance of a large orange top with a green base.

Seeds sown out of doors in the spring develop into plants that begin to bloom in July, and continue blooming until they are killed by frost. **Packet, 10c.**

Dixie Sunshine Marigold occupies a sure place in the group of new Marigold types. It is a most charming and unique strain. The medium sized flowers, 2 to 2½ inches across, are fully double and ball-shaped, ingeniously composed of dozens of tiny five-petaled florets which are gracefully interlocking and daintily fringed in effect. The brilliant golden yellow color is well set off by the lush green foliage of the bushy, rather tall plants. **Packet, 10c.**

Double Royal Scot French Marigold. As modern in appearance as any flower now offered, Royal Scot is one of the most striking color combinations one could wish for. The large, well-formed double flowers are produced in abundance on plants from 24 to 30 inches in height, fine for garden or cutting. Color is a bold combination of mahogany and gold in symmetrical stripes. **Packet, 10c.**

Guinea Gold Marigold. While this type cannot be classed as a newer variety, its popularity and loveliness gives it special mention. The flowers are a gorgeous orange with loosely ruffled petals. The plants are free bloomers and practically all flowers are double. **Packet, 10c.**

Dwarf French Single: Diadem, mahogany red; Gold Star, yellow striped maroon; Legion of Honor, little brownies; Signata Pumila, very dwarf bright orange; Mixed colors. **Packet, 10c.**

Dwarf French Double: Golden Ball, golden orange; Lemon Ball, lemon yellow; Robert Beist, dark brownish maroon; Mixed colors. **Pkt., 10c.**

Tall French Double: Royal Scot and Mixed colors. **Packet, 10c.**

Tall French Single: Josephine, brown. **Packet, 10c.**

Tall African Double: Orange, Lemon, Mixed. **Packet, 10c.**

NASTURTIUMS

Glorious Gleam Hybrid Nasturtiums. Delightfully sweet scented, beautifully double and in a remarkable color range, including a brilliant blend of salmon, golden yellow, orange scarlet, cerise, cream, orange, maroon and crimson shades, as well as many spotted varieties. **Packet, 5c.**

Golden Gleam Nasturtiums are semi-dwarf, bearing the flowers well above the light green foliage on long, wiry stems. The flowers are especially fine for both garden and cutting. **Packet, 5c.**

Scarlet Gleam Nasturtiums are large and full petaled, waved and fluted in effect, and extremely showy. Completely covering the foliage of the plant, the long-stemmed orange scarlet flowers make a dazzling splash of color. Richly sweet scented. **Packet, 10c.**

For those who still prefer the good old fashioned type, we offer the dwarf mixed and tall mixed.

Packet, 5c.

PHLOX DRUMMONDI

(A&P). Plants growing from 6 inches to 3 feet, according to type. Creeping and erect forms, smooth or pubescent. Leaves variable; salver-shaped flowers in bright colors, blooming in spring, summer, or early fall, according to kind. Perennial Phlox should be kept moist during the dry season, mulch with peat moss or leaf mold during winter and summer. Cut plants back after flowering season. Annual Phlox prefer a somewhat moist, light, porous soil. Goes well with Verbenas, Petunias, Gypsophila and Snapdragons. Varieties: **Chamois Rose,** carmine eye; **Crimson; Scarlet; White; Isabellina,** Dwarf Mixed; **Decussata,** Perennial Mixed Phlox. **Packet, 10c.**

PANSIES

(Viola Tricolor). (hA). A low-growing border and bedding plant, best with sun and moderate shade, blooming from March into fall. Seeds should be sown in late August for early blooming, in spring for late spring and summer blooming. Spring sown seeds should be planted in flats and transplanted just before blooms appear. Grouping—in separate bed or with Alyssum, Columbine, Yellow Snapdragons, Iceland Poppy, etc. Varieties: **P. S. C. Super Giant Swiss Mixed (20c); P. S. C. Growers' Special Mixed (20c); Oregon Giant Mixed; Adonis,** light blue with white center; **Cornflower blue; Giant Dark Blue; Giant Striped; Golden Queen,** pure yellow; **King of the Blacks; Madam Perret,** dark wine pink with red frilled petals; **Snow Flake,** pure white; **Violet Blue,** dark blue; **Masterpiece,** giant ruffled.

Packet, 10c.

PINKS

(Dianthus). (A&P). Grows from 10 to 14 inches high, and bears beautifully colored single and double blossoms in profusion all summer. For best results seed should be sown in flats and transplanted when soil is warm. Largely used for borders or massed in beds. Excellent for cut flowers. Grouping—can be planted in separate beds or with Snapdragons, Delphiniums, Stocks, Carnations, Sweet Williams and Petunias. Varieties: (Annuals) **Chinensis,** flowers produced in clusters, single and double mixed; **Heddewigi,** double; **Fire Ball,** scarlet; **Salmon King,** deep pink; **Snow Ball,** white; **Mixed.** (Perennial) **Clove Pinks, Pheasant's Eye,** single mixed; **Pheasant's Eye,** double mixed; **Single Mixed** and **Double Mixed. Packet, 10c.**

ORIENTAL POPPY

POPPY

(Papaver). (A&P). Flowers growing from 6 inches to 4 feet, according to type. Erect plants, with usually hispid, coarsely toothed, pinnafied leaves. Small to large globular, brightly colored flowers, blooming in spring and summer. Perennials are planted in fall and annuals in early spring. Grouping—Effective by themselves, or grouped in a mixed border with yellow and orange Snapdragons, Lobelia, tall, Violas, etc. Varieties: (Annuals) **Shirley,** double mixed; **Carnation Flowered,** tall double mixed; **American Legion,** single brilliant orange; **Flanders,** single blood red; **California Poppy** (Aurantiaca), orange. (Perennials) **Elmonte Tangerine,** orange; **Oriental Mixed. Packet, 10c.**

PORTULACA

(Rose Moss). (hA). An exceptionally fine flower for dry sunny spots where most plants are unable to thrive. A dwarf plant only 6 inches in height and blooms profusely from early spring to late summer. Brilliant colors of : Red, yellow, pink, white, and striped. Sow seed indoors and transplant at early spring warmth. Varieties: **Single Mixed** and **Double Mixed. Packet, 10c.**

MINIATURE ROSE GEM PETUNIA

PETUNIAS require a rich, light, well fertilized soil, however, the fertilizer should not be applied until after the plants are established, then use a good complete plant food. A liberal amount of peat moss or leaf mold, or both, should be worked into the bed before planting. When setting out transplants be careful to avoid the direct sun as tender Petunia plants wilt rapidly.

Martha Washington ushers in an entirely new version. The plants are about 9 inches tall, in a perfect ball effect, actually covered with dozens of the delicately ruffled medium-sized flowers. The color itself is an interesting combination, blush pink at the edges, deepening to dark violet in the throat, with heavy veining. It comes exceedingly true to color and type, and is excellent for use as a bedding, border or window box plant. **Packet, 15c.**

Miniature Petunias Rose Gem and **Pink Gem.** These two charming types have filled a vacancy home gardeners have had for years. Where a low, solid bed of color is needed nothing does quite as well as these two varieties of miniature petunias. The plants are neat and compact, 5 to 6 inches in height and smothered with richly colored blossoms about 2 inches in diameter. Rose Gem (**15c**); Pink Gem (**10c**).

Giants of California are the largest of the single flowering petunias. The flowers are completely ruffled with large, graceful throats. Excellent in beds by themselves or grouped with Dwarf Lobelia. Mixed colord. **Packet, 10c.**

Dwarf Giants of California are a compact form of the above. Especially fine for potting and also go well in a bed with the taller variety. Light Blue, Dark Blue and Mixed Dark and Light.
Packet, 15c.

Bedding Petunias: Balcony Blue; Balcony Rose; Balcony White; Rose of Heaven; Rosy Morn; Single Mixed. **All Packets, 10c.**

Taller Varieties: Elks Pride, deep purple, **25c;** City of Portland, pink, **25c;** General Dodds, blood red, **25c;** Dainty Lady, delicate golden yellow, **25c;** Double Choice Mixed, **25c;** Double Fringed Mixed, **35c;** Flaming Scarlet, **25c;** Burgundy, **25c.**

PHYSALIS (Chinese Lantern). These plants will add a bit of Oriental touch to your garden. Its lacquer red blooms have much gaiety and charm. If planted among Gypsophila (Baby Breath) you will have a beautiful growing bouquet. Variety: **Francheti.**
Packet, 10c.

PRIMULA (Primrose). (hP). A favorite for growing outdoors in mild climates and very fine for potting, flower baskets and window boxes. Varieties: **Malacaides,** light lilac and mixed; **Kewensis,** golden yellow. **Packet, 10c.**

SALPIGLOSSIS (Painted Tongues). (hA). 1 to 2½ feet in height and should be planted in a sunny place. Erect plants, with oblong, wavy-toothed, dark green leaves. Large, tubular, velvety textured, lily-like flowers in bright and gaudy colors, blooming from early June into fall. Varieties: **Brown and Gold; Scarlet and Gold; Violet and Gold; Purple and Gold; Rose and Gold; Crimson and Gold; Yellow; Mixed. Packet, 10c.**

SALVIA (hA). 1 to 3 feet. Should be planted in a sunny location. Erect, branching plants, with variable leaves and irregular, tubular flowers, blooming in summer or fall. Varieties: **Bonfire,** clear red; **Splendens,** brilliant scarlet; **Zurich,** dwarf early mixed. **Packet, 10c.**

SCABIOSA (Pincushion Flower). (hA). 1½ to 3 feet tall. To be planted in sun or semi-shade. Bushy plants with divided foliage and dense heads of irregular flowers, blooming in spring, summer and fall according to type. Grows well in ordinary soils, but favors well fertilized, somewhat sandy loam. Grouping—combine with Ageratum, Snapdragon, Perennial Phlox, Sweet Williams and Stocks. Varieties: **Azure Fairy,** blue; **Peach Blossom; Fire King,** scarlet; **Flesh Color; King of the Blacks; Loveliness,** pink; **Double Mixed.** (Perennials) **Japonica,** lilac. **Packet, 10c.**

SNAPDRAGONS

Seed should be sown indoors in March or April. It may be slow in germinating, but after the true leaves have formed the growth is usually rapid. The small plants can be transplanted to the open as soon as danger of frost is over; they will flower from July until frost if the blossoms are picked as soon as they fade. Seed may also be planted in the open in August, and the seedlings transplanted to pots for winter bloom, or the plants can be covered with a mulch over winter to give earlier summer flowers.

To encourage the growth of flower-bearing side branches, the central bud should be pinched out when transplanting; followed by occasional pinching of other too-vigorous shoots, this will result in a compact oval plant covered with short racemes of flowers.

Rust, the most serious snapdragon disease, is found all over the United States on both greenhouse and outdoor plants. Dusty, chocolate-brown pustules (spore masses) are produced on the under side of the leaves and on the stems. Weekly applications of a good dusting sulphur during the rainy periods and fortnightly applications in dry weather will effectively control rust if a start is made early in the season. Keep sulphur off the flowers when in bloom. All Diamond Quality Snapdragons are of the newer Rust-Proof Strain and if Diamond Quality seed is used you need not worry about the rust disease.

RUST PROOF SNAPDRAGON

Snapdragons may effectively be grouped with Scabiosa, Gladiolus, Larkspur, Delphinium, Clarkia and Chrysanthemum. Varieties: **Majus Rust Proof** varieties; **Butter Cup,** canary yellow; **Copper Shades; Pink Shades; Scarlet; Shasta White; Fiery Red** and **Mixed** colors.

Packet, 10c.

SCHIZANTHUS

(Poor Man's Orchid or Butterfly Flower). (hA). Grows 1 to 1½ feet, and should be planted in sunny places. Erect, slender branched with bright green, finely divided leaves. Butterfly-like flowers that are varicolored and blotched in many colors. Seed should be sown in early spring in rich, well fertilized, sandy loam. Grouping—excellent in masses; for the mixed border, combining with Gypsophila, Virginia Blue Bells and Gerbera. Varieties: **May Blossom,** rose pink; **Brilliant Mixed. Packet, 10c.**

STOCKS

(Gillyflowers). (hA). Grows from 1 to 2½ feet tall, depending on type. Prefers sun with slight shade. Stiff and branching plants with smooth, bright green, oblong leaves. Blossoms are very fragrant, coming in small single or large double varieties, depending on type. Plant in well drained, rich, light loam; fertilize with complete plant food; pinch back young plants; plant close together, rogueing out single flowered plants later, if undesired. Use peat moss in preparing bed. Grouping—Very effective alone, or combined with Sweet Sultan, Violas and Pansies, Snapdragons, Daffodils, Tall Marigolds. Varieties: **Double Early Giant Imperial,** rose; **Elks Pride,** purple; **Canary Yellow; Blood Red; White** and **Mixed. Double Perfection Branching: Princess,** white; **La France,** pink; **Brilliant,** blood red; **Sapphire,** violet; **Creole,** canary yellow; **May Queen,** pale blue; **Rose Pink** and **Mixed. Virginia Stocks:** Rose, Mixed. **Evening Scented Stocks** Mixed.

Packet, 10c.

SWEET WILLIAM

(Dianthus Barbatus. (hP). 10 to 20 inches in height. Prefers sun or light shade. Forming a dense mat of light to dark green, often colored leaves, and dense, round headed cymes of hairy-petaled, medium sized flowers, blooming over a long period. Their large color range makes them excellent for cut flowers. Grouping—Snapdragons, Delphiniums, Stocks, Carnations, Phlox and Petunias. Varieties: **New Port Pink; Scarlet Beauty,** orange red; **Dark Crimson; White; Single Mixed** and **Double Mixed.**

Packet, 10c.

VERBENA

(hhP). Perennial, usually treated as an annual. Grows 6 to 8 inches, but exceedingly spreading. Requires plenty of sunshine. Densely branching, with dark green, wrinkled, dissected leaves. Dense cluster of medium sized, salver-shaped flowers. Blooming from May often into winter. Grouping—Fine border plant; in parkings; foreground of shrub border; in the mixed border, combining with Petunias, Shirley Poppies, rose and red Snapdragons and Stocks. Varieties: **Golden Queen,** golden yellow; **Scarlet Defiance,** orange red; Pink Shades; Blue Shades; White; Mixed. **Packet, 10c.**

WALL FLOWER

(Cheiranthus Cheiri). (hsP). Half shrubby perennial growing from 2 to 3 feet. Sun loving, but endures a little shade. Woody plant, with ribbed stem and dark green lanceolate leaves. Medium sized, mustard-like flowers in dense clusters. Grows in most types of soil but prefers well fertilized, light loam. Varieties: (Perennials) **Cheiranthus Cheiri,** yellow shades; **Siberian Wall Flower,** brilliant orange (for rock plants). (Annuals) **Blood Red; Paris Market,** brown; **Mixed; Double Early Wonder** Mixed.

Packet, 10c.

FANTASY ZINNIA

ZINNIAS are of the easiest culture, thriving in almost any soil and under almost all conditions. Natives of Mexico, they are happiest in the hot, dry conditions characteristic of their land of origin.

While seedling plants of Zinnias can be transplanted, they do best when the seed is sown directly in the soil where the plants are to flower. Never sow your Zinnia seed, however, until the soil is warm and danger of low temperatures is past. This would probably be from the 10th to 15th of June during normal years. For best results, provide a rich, deep soil and give water when needed. For the fullest development of the plant, the Giant types should be no closer than 18 inches apart each way, and the smaller growing kinds 10 to 12 inches apart. This will allow free branching for sturdy plant development, and will assure the production of large, well formed double flowers.

Zinnias are very fast growing annuals during the summer months and successive sowings can be made all through the summer and as late as the first of August.

Fantasy Zinnia is the most recent introduction and the best known in the semi-tall type. The plants are about 2½ to 3 feet in height, neat in habit, strong growing and very free flowering. The flowers are very informal in appearance, composed of a mass of shaggy, ray-like petals, which give a delicate, graceful effect, quite distinct from the stiff formal Zinnias to which we are accustomed. They are rounded in shape, of medium size, around 2½ to 3 inches, carried on good strong stems, and are excellent keepers. Fantsay is available only in a Mixture of lovely colors. **Packet, 10c.**

The California Giant Strain is, in some ways, a companion type to the Dahlia Flowered. The plants are, however, taller than the Dahlia Flowered, reaching a height of 3 to 4 feet, with longer, strong stems, which are particularly adapted for use as a cut flower. The flowers themselves are very large and well formed, with a smooth topped, graceful appearance, the petals lying flat upon each other. We offer the following varieties: Cerise Queen; Lavender Gem; Rose Queen; Violet Queen; Grenadier, dark red; Golden Queen; Daffodil, canary yellow; Orange Scarlet King; Purity, white; Brightness, bright pink; Enchantress, light rose; Salmon Queen; Golden Orange Queen; Scarlet Queen; Mixed. **Packet, 10c.**

The Dahlia Flowered type comes first to mind under the tall large flowered varieties. Plants in this group are strong and robust growing, about 3 feet tall, and bear many long stems of the showy, double, huge flowers, which closely resemble the Show type of Dahlia. This type is preferred for general garden use, producing a very brilliant mass of color, in bright, intense shades. The plants, however, are rather stocky and the stems not quite as long or as well adapted for cutting as the California Giant group. The flowers, themselves, are more or less cup-shaped in appearance; the petals, instead of lying flat upon each other, are incurved, producing an upstanding, stiff, somewhat coarse flower. The blooms, when well grown, will reach a diameter of six and sometimes seven inches. The general average, however, would be 4½ to 5 inches. Flowers are produced within about sixty days from time of planting. We offer the following varieties: Exquisite, light rose; Golden State, golden yellow; Crimson Monarch, deep crimson; Dream, rosy lavender; Scarlet Flame; Oriole, orange; Meteor, true red; Polar Bear, white; Old Rose; Canary Bird; Purple Prince; Old Gold; Mixed. **Packet, 10c.**

Lilliput or **Pompon Zinnia,** sometimes known as the Baby Zinnias. It is among the most popular for cut flower use and is steadily becoming more popular as a garden variety. The flowers are small, compact and symmetrical in shape, 1 to 1½ inches in diameter, borne in great quantities on neat, compact growing plants which usually reach a height of from 12 to 15 inches, but which may be forced in semi-shade or in the greenhouse to a height of 2 to 2½ or even 3 feet. Lilliput Zinnias have been found to be especially effective when used in combination with other flowers. We offer the following varieties: Salmon Rose; Canary Yellow; Rosebud; Scarlet Gem; Crimson Gem; Golden Gem; Lilac Gem; White Gem; Pink Gem; Mixed. **Packet, 10c.**

Cut and Come Again of Pumila Dwarf Double type is one of the oldest double Zinnias known. It was the first really double Zinnia developed from the early single forms and has retained a certain amount of popularity ever since. Plants are about 12 to 18 inches in height. Flowers about 2 inches in diameter, well adapted for use as a cut flower. We offer the following varieties: Crimson; Pinkie; Golden Orange; Salmon Rose; White; Mixed. **Packet, 10c.**

SWEET PEAS

are essentially cool weather plants, and they quickly fade away if the temperature persists for long above 75°. In the sea-cooled areas of the Pacific Northwest, sweet peas can be grown successfully throughout the summer. An early start is highly important. The plants should be well established before hot weather arrives, but if the heat is extreme and persistent, nothing will keep the plants growing vigorously, though it is possible to carry the plants through July and even later if a cheese-cloth shading is erected over plants.

Sweet Pea seed is hard shelled, therefore better results can be obtained if the seed is soaked in water for a day or two before planting.

Dig a wide trench to a depth of 12 inches and after breaking up the bottom of trench fill in with several inches of peat or leaf mold to which add a liberal amount of bone meal; fill in the balance of the trench with good top soil. Tamp the soil down firmly and water thoroughly to the base. Let stand a few days until moderately moist. Never put the seed in too wet soil. Pulverize the surface well by raking, make rows and plant seed about one inch deep, and two inches apart. Do not water until all the seed is up at least half inch.

Thin out to at least six inches apart and train on wire or string netting when plants are five or six inches high. Applications of Vigoro during flowering period will add greatly to length of stems and size of blossoms. Keep well cultivated and water only as needed, as excessive moisture will cause the buds to drop.

AUSTIN FREDERICK IMPROVED

MIXED SPENCERS. ALL COLORS.
Packet, 5c

GIANT WAVED and RUFFLED SPENCERS

Packet, 10c; 1 ounce, 35c

PINK AND CREAM

Ascot. Clear light rose pink. Very large blooms.
Mary Pickford. Cream pink, faintly tinted to salmon.
Pinkie. Large flowers in fours. A deep rose pink.
What Joy. Colorful primrose, shaded to soft cream.

RED AND MAROON

Charming. Brilliant blossoms of rose cerise.
Flamingo. Long stems. Flowers are orange scarlet.
Sybil Henshaw. Deep crimson flowers of giant size.
Welcome. The most dazzling of all scarlets. Strong stems.

ORANGE AND SALMON

Barbara. A beautiful shade of orange salmon.
Celebrity. Brilliant orange of exceptional quality.
Gloriosa. A dazzling, clear, bright orange scarlet.
Pirate Gold. A beautiful, mellow deep golden orange.
Tangerine Improved. Exquisite salmon orange.

LAVENDER, BLUE AND MAUVE

Austin Frederick Improved. Ruffled pure lavender.
Chieftain. A giant satiny mauve (deep lavender).
Fortune. A lovely rich, dark blue with long stems.
Gleneagles. One of the very best lavender blues.
Olympia. Giant ruffled flowers of rich purple.
Powerscourt. Clear pure lavender. Best lavender.
Reflection. A lovely sun-proof clear cornflower blue.

WHITE AND PICOTEE

Youth. Large pure white with margin of clear pink.
Avalanche. Glistening white of great substance.

SPECIAL SWEET PEA COLLECTION
NINE 10c PACKETS FOR 50c

EARLY FLOWERING SPENCERS

Packet, 10c; 1 ounce, 45c

Apollo. Extremely long stems. Soft salmon cerise.
Columbia. Rose standard with light pink wings.
Giant Rose. Truly the best rose-pink variety.
Harmony. Very popular clear lavender with large flowers.
Oriental. Clear deep cream with black seeded center.
Shirley Temple. Giant waved flowers of soft rose pink.
Snowstorm Improved. Giant clear white flowers.
Spring Song. Brilliant, bright rose-pink flushed salmon.
Vulcan. Vivid sun-proof scarlet. Most outstanding red.
White Harmony. Glistening pure white with vigorous stems.
Early Flowering Spencer Mixed. Well blended mixture.

Other Varieties of Annuals

Aster, American Giant Branching; mixed colors, double flowers, long stems.

Aster, Heart of France; red, 2 feet tall, good stems.

Aster, Early Wonder; white, light blue, dark blue, rose, crimson, mixed.

Aster Mum; like Chrysanthemum, white rose, lavender, mixed.

African Daisy (Arctotis); red and orange shades, 1 foot tall.

African Lilac Daisy (Arctotis Grandis); grows 3 feet tall.

Acroclinium (Everlasting Straw Flower); double mixed.

Balloon Vine (Love in a Puff); fine climber, white blossoms, bears pods.

Balsam (Lady Slipper); double blossoms, pink, scarlet and mixed. 2 feet.

Bachelor Button, Jubilee Gem, Blue Boy.

Blue Lace Flower (Oidieus); blue, grows 3 feet tall.

Browallia (Amethyst); Excellent for window boxes. Mixed colors.

Brachycome (Swan River Daisy); mixed colors.

Bartonia (Blazing Star); beautiful golden yellow. 3 feet.

Canary Bird Vine; climber with lovely yellow blossoms.

Cardinal Climber; strong rapid climber with blazing red flowers.

Cypress Vine (Ipomoea Quamoclit); fern-like foliage, scarlet or mixed.

Celosia Cristata (Cockscomb); crimson and mixed.

Celosia Plumosa (Cockscomb, Feathery Type); red, yellow and mixed.

Chinese Wool Flower (Celosia Childsii); crimson.

Cut Flower Mixture, (5c); A mixture of easy growing annuals. Assorted colors.

Everlasting Flowers; mixed varieties and colors.

Euphorbia (Annual Poinsettia).

Euphorbia Variegated (Snow on the Mountain) Heterophylla.

Evening Primrose (Biennial); yellow shades, for rockery or border.

Four O'Clock (Mirabilis Jalapa); mixed colors. 2 feet.

Forget-Me-Not (Myosotis); Biennial:
Victoria—Dwarf sky blue. 8 inches.
Semperflorens Blue—Blooms all summer.
Alpestris—Blue and mixed colors.
Stick Pin—12 inches tall.

Gourds; large calabash, dipper (**10c**). Mixed (**5c**).

Hunnemannia (Mexican Tulip Poppy); yellow.

Hyacinth Bean (Dolichos Lablab); purple and white blooms. Climber.

Heliotrope (Garden); blue and mixed colors.

Humulus (Japanese Hop); white climber.

Helianthus (Sunflower); Double mixed, dwarf yellow chrysanthemum flowered.

Ice Plant; trailing for vases and rock work.

Job's Tears; produces little sprays. 12 inches.

Kochia Childsii (Mexican Fire Bush); green foliage turning to fiery red.

Lantana; Verbena-like clusters of flowers. 2 ft.

Linum (Flower Flax); Grandiflorum Rubrum, scarlet.

Linaria, Golden Gem.

Lupin (Annual); dark blue, sky blue and mixed.

Mimulus Maschatus (Musk Plant); grows 6 in.

Moon Flower; white fragrant climber; night bloomer.

Mimosa (Sensitive Plant); small lilac blossoms.

Nicotiana (Flowering Tobacco); crimson and mixed. 3 feet.

Nemesia (Nana Compacta); blue, scarlet, orange and mixed.

Nemophyllia (Baby Blue Eyes); blue and mixed. 6 inches.

Nigella (Love in a Mist); Miss Jekyll, double blue; Hispanica, blue (Devil in a Bush).

Portulaca (Rose Moss); double mixed, single mixed.

Physalis (Chinese Lantern); fine everlasting flowers.

Passiflora (Passion Flower); mixed colors.

Poppy, King Edward; single scarlet.

Poppy, Shirley; single mixed.

Poppy, Paeony Flowered; plain edged mixed.

Poppy, Tulip; deep scarlet.

Smilax.

Statice Sinuata; blue, white, lavender, yellow, rose and mixed.

Strawbower (Everlasting); mixed.

Sweet Sultan; lavender, white, lilac, red, yellow.

Sweet Wivelsfield; similar to Sweet Williams. Mixed.

Wild Cucumber; rambling vine. Mixed.

Other Varieties of Perennials

Arabis (Rock Cress); white rock plant.

Anchusa (Sea Bugloss); blue flowers growing 6 feet.

Ampelopsis (Virginia Creeper); fine climber.

Ampelopsis (Boston Ivy); shiny green leaves.

Anemone (Wind Flower); St. Brigid, double mixed.

Antigonon (Mountain Rose Coral Bells).

Armeria (Sea Pink); lilac rose—rock plant.

Agrostemma (Rose of Heaven); crimson. 12 in.

Asparagus Plumosus (Asparagus Fern); house plant.

Asparagus Sprengeri (Emerald Feather); house plant.

Begonia (Wax Flower); rose and bronze foliage.

Bachelor Button (Centaurea Cyanus); double rose, blue, mixed.

Cineraria; semi-dwarf (**25c**), star flower mixed (**25c**), ordinary mixed (**15c**).

Canna; a greenhouse plant.

Cerastium Tomentasum (Snow in the Summer); white flowers.

Cobea Scandens (Cathedral Bells); blue mixed.

Coleus; greenhouse plant, mixed colors (**15c**).

Cheiranthus (Siberian Wall Flower); brilliant orange.

Dahlia; Coltness Mignon, mixed dwarf bedding; double mixed; single mixed.

Daisy, Bellis Monstrosa (English Daisy); double red, rose, white and mixed.

Daisy, Shasta; double (**15c**), single (**10c**).

Gerbera (Transvaal Daisy); mixed colors (**15c**).

Geranium; Zonale mixed, Lady Washington (**15c**).

Heuchera (Coral Bells); crimson color (**15c**).

Kudzu Vine (Jack and the Bean Stalk); climber.

Linum (Flowering Flax); perennial blue. 2½ ft.

Lupins; Perennial mixed, blue.

Nepeta (Gray Catmint); blue color.

Primula (Primrose):

Malacòides (baby primrose); light lilac.
Kewensis; golden yellow (**15c**).
Veris (cowslip); mixed colors.
Vulgaris Yellow (True Yellow Primrose).
Oenthera; evening scented.

Pyrethrum; Golden Feather.

Pyrethrum; deep scarlet.

Pentstemon (Beard Tongue); mixed colors.

Poppy, Oriental; mixed colors.

Poppy, Sanford's Giant Mixed.

Poppy; Iceland, single mixed.

Poppy, Sunbeam Hybrids; mixed.

Rock Garden Mixture; wide variety of color.

Silene (Catchfly); mixed.

Statice Latifolia; Perennial blue.

Sweet Peas (Perennial); Red, Pink Beauty, White, Mixed. **Packet, 10c.**

Sweet Rocket; white mixed.

Thunbergia (Black Eyed Susan); mixed shades.

Tritoma (Red Hot Poker); brilliant red blossoms.

Viola Jersey Gem; apricot, yellow (**25c**), mixed (**10c**).

Violet; beautiful blue.

Valeriana; red and mixed colors.

DIAMOND SWEET PEA COLLECTION

△

One each of the following ten-cent packets

△

PINK CREAM MAROON ORANGE PURPLE LAVENDER WHITE BLUE RED

△

A 90-cent Value All for 50c

△

PORTLAND SEED COMPANY

THIS YEAR

ENJOY THE PLEASURE OF FRESH, CRISP, TASTY VEGETABLES FROM YOUR OWN GARDEN

THE best health insurance you can buy for your family costs only the few cents you spend for vegetable seed, plus a little time spent in the enjoyable hobby of gardening.

Home grown vegetables are not only fresher and more choice than store bought ones, they are more nutritious. Many are rich in vitamines and when they are picked fresh from your own vines and quickly cooked they retain their body building values so much better than the kind that sometimes lie in grocery bins for days.

These crisp salad greens when grown just outside your kitchen door are just a few moments from the ground to your table. Sweet corn, deliciously steamed cooked, is on your table in a half hour after it has been pulled, and the milky sweet kernels have all of their nourshing qualities.

Grow your own good health. No matter if you have just room for a "Kitchen size" plot, your grocery bills will be lower this summer, the family healthier and you will fully enjoy the fun of doing it.

If this is your first year for planting a vegetable garden we recommend you consult the page on "Soils" and be sure that your garden plot is in proper condition before the seed is planted. This extra precaution will pay big dividends at harvest time.

In order to produce the finest vegetables it is important to have fertile soil so that crops can grow as rapidly as possible. There are three basic elements in any good plant food and we recommend that you consult the page on fertilizer before planting.

ASPARAGUS

Because this crop is the most permanent of all vegetables the home gardener should plan to place it in a separate bed that can stand for years. No soil is too rich for asparagus, it will grow in any ordinary good garden soil but will not produce tender stalks without liberal supply of commercial fertilizer and plenty of moisture.

For the home gardener it is usually too troublesome to start the asparagus from seed. For a moderate price you can purchase dormant 1 year crowns or roots thus hastening ultimate production for several years. It takes 60 to 70 roots for a 100 foot row. Rows should be 4 to 5 feet apart.

If planting seed it is best to drill thinly in rows 15 inches apart during March or early April. Thin out to 2 inches apart, transplant during February setting the roots 1 foot apart in rows 4 feet apart. The rows should be 10 to 12 inches deep and running north and south getting the sun on both sides. Cover the roots about 3 inches and as the plant grows continue to cover until rows are filled.

Giant Washington. The genuine rust resistant strain, stalks long, rich dark green, of excellent quality. **Packet, 5c; ounce, 15c, postpaid.**

Mary Washington. A special selection of Giant Washington. Somewhat earlier and larger, also rust resistant. **Packet, 5c; ounce, 15c, postpaid.**

ARTICHOKES

Primarily a winter vegetable and is the best produced in certain parts of California where areas are frost free in winter and cool and foggy in the summer.

In the producing areas suckers are used in place of seed so as to insure winter production of heads. Although the plant is a perennial without the peculiar climatic conditions the production of Artichokes is not advisable. They may, however, be grown in many frosty areas if the proper precautions are taken.

Seed may be sown at any time except during the hottest weather. Soil should be free, moist loam and seed should be planted an inch deep. Transplant when 6 inches high in rows 4 feet apart each way. The best edible variety is **Green Globe. Packet, 5c; ounce, 75c, postpaid.**

Jerusalem Artichokes are adapted to nearly all sections west of the Cascade Mountains and the irrigated sections east of the Cascades. Used most extensively as stock feed for hogs, cattle, sheep and horses. For best results they should be fed with grain or legume hay or both. The type of artichoke requires the same soil and cultural methods as potatoes. 500 to 800 cut tubers are required to plant an acre. Write for prices.

BEANS

This vegetable is classified into two groups, the dwarf or bush variety and the pole or climbing type. These two groups are again divided into two distinct types, the green podded varieties and the wax or yellow podded varieties.

Nearly all of the Bush varieties are ten to twelve days earlier than the Pole types which make them a favorite among the home and market gardeners. Also it is not necessary to stake this type because of their low growing habits.

Beans will not stand frost and should not be planted until two weeks after the last killing frost. It takes approximately 1 pound of seed for a row 100 feet long and should be planted in hills approximately three or four seed to the hill. For the most tender and delicious beans they should be picked when about two-thirds grown.

For a succession of crops, plant every ten days or two weeks until about the first of August. Seed sown after this time will probably be caught by early frosts. Bush varieties mature from forty-five to seventy days depending on the heat. Pole varieties, seventy-five to eighty days.

Cultivate frequently but never do this in the early morning or just after a rain as bean foliage is very susceptible to disease which is easily spread when the vines contain an over abundance of moisture.

Packet, 10c; ½ pound, 20c; 1 pound, 30c, postpaid.

LIMA BEANS

Oregon Pole Lima. Proven over many years to be well adapted to our cool northwest climate. Strong, vigorous grower, bearing continuously until frost, pods best when turning yellow. Other varieties **Burpee Bush Lima, Henderson Bush Lima.**

GREENPOD POLE VARIETIES

Oregon Giant Greenpod. Keeps producing until killed by frost. Large fleshy pods 10 to 12 inches in length, stringless, light greenish yellow splashed with red.

Kentucky Wonder Greenpod. Pods are very fleshy, saddle back, fine grained and stringless. Exceedingly early and prolific. Average 8 to 10 inches in length and are light green.

Blue Lake. The popularity of this variety is rapidly increasing here in the Northwest. Its growing habits are well adapted to our soil and climatic conditions. This variety produces bountifully and are being used greatly by canners.

WAXPOD POLE VARIETY

Kentucky Wonder Wax the earliest of all wax varieties. This pole bean starts bearing when scarcely higher than a bush bean and continues until frost. The pods are fleshy, long, crumbled and of creamy yellow color.

KENTUCKY WONDER GREENPOD

GREENPOD BUSH VARIETIES

Improved Stringless Greenpod by far the best of the bush varieties, exceedingly early and a very heavy producer. Pods five to six inches long, round and exceedingly fleshy, absolutely stringless and tastiest of all beans.

Stringless Black Valentine. The pods are very fleshy, round and saddle back. Produces a large crop of tender beans.

Other varieties—**Dwarf Horticultural** or **Cranberry, Stringless Refugee, Tender Green** and **Little Navy.**

WAXPOD BUSH VARIETIES

Improved Golden Wax. Vigorous and highly productive, this bean reaches table condition in fifty days. Pods are a deep golden yellow about five inches in length.

Davis Wax. The pods are long, rust resistant and very tender. The dry white kidney-shaped beans are excellent for baking.

Other varieties—**Pencil Pod Black Wax, Brittle Wax** and **Prolific Black Wax.**

DIAMOND NAPHTHALENE FLAKES PROTECT YOUR CROPS FROM SOIL PESTS.

DETROIT DARK RED BEETS

BEETS

This is one of the easiest vegetables to grow. They do exceedingly well in almost any kind of garden soil but prefer a rich sandy loam that is easily worked. They are exceedingly rich feeders, so the soil must be well fertilized in order to get the quickest growth necessary for tender juicy beets. Slow growth means tough roots.

It is always a good idea to sow beet seed thickly and then thin out plants to allow proper root development. When plants are about four inches high thin to two inches apart if you want many small roots and to five and one-half inches if you desire fewer but larger beets.

Make the rows 12 inches apart if you cultivate with a hoe or wheel hoe. Cultivate deeply and often at first but carefully so the young seedlings will not be disturbed.

P. S. C. Market Gardener. Extra early and remarkable for its fine quality and rapid growth. The tops are small, the roots are deep red, globe shaped and the flesh is of dark red variety. It is preferred by market gardeners because it matures evenly, stands long and does not split. **Packet, 5c; ounce, 10c; ¼ pound, 35c; 1 pound, $1.00.**

Detroit Dark Red. Due to its uniformity in size and smooth, handsome appearance it is a very popular variety with commercial growers as well as home gardeners. Roots are deep red, globe shaped with small tap root. This variety is entirely free of white rings and retains its tasty flavor after it grows to full size. Excellent for pickling. **Packet, 5c; ounce, 10c; ¼ pound, 35c; 1 pound, $1.00.**

Early Blood Turnip Beet. An improved variety over the blood turnip type. Tops are large, roots dark red and nearly round. Flesh deep red with lighter zoning, sweet crisp and tender. These beets are recommended for summer and fall use. **Packet, 5c; ounce, 10c; ¼ pound, 35c; 1 pound, $1.00.**

Extra early Egyptian. One of the best for forcing. Tops are small the roots are dark red and flat on the bottom with a very small tap root. **Packet, 5c; ounce, 10c; ¼ pound, 35c; 1 pound, $1.00.**
Other varieties—**Crosby Egyptian** and **Early Wonder.**

MANGEL WURZEL

Seed should be sown at the rate of 5 to 6 pounds per acre and thinned to 10 inches apart in rows.

Mangels should be planted early in the spring in rows 2½ feet apart, the seed should be 1 inch apart in the rows and covered by 1½ inches of soil firmly pressed down. When plants are 3 inches high begin to thin until roots are 10 inches apart. One ounce of seed plants approximately 100 feet and 5 pounds to the acre.

P. S. C. Heavy Cropper. One of the largest Yellow Mangels easily pulled as it grows two-thirds above the ground. We highly recommend this variety because of its outstanding quality. **Packet, 5c; ounce, 10c; ¼ pound, 25c; 1 pound, 60c.**

Half Sugar Mangels double the yield of sugar beets. Roots large, smooth, creamy white with few rootlets, tops medium size. **Packet, 5c; ounce, 10c; ¼ pound, 20c; 1 pound, 50c.**

Danish Sludstrup. Roots long, reddish yellow, good yielder growing well above the ground. **Packet, 5c; ounce, 10c; ¼ pound, 20c; 1 pound, 50c.**

Sugar Beets. Seed should be planted in early spring in rows 2½ feet apart, cultivate frequently. When plants are about 3 inches high begin thinning and continue at intervals until they are 10 inches apart. **Packet, 5c; ounce, 10c; ¼ pound, 25c.**

BRUSSELS SPROUTS

Primarily a fall and winter vegetable. The plant will not mature properly in intense heat and dryness. It is closely related to the cabbage and seed planting should be treated exactly as that of the late cabbage varieties.

When the plants reach a growth of 5 to 7 inches high pinch off a few of the leaves and set out about 18 inches apart in rows that are 2 feet apart.

Cultivate frequently especially after rain. Sprouts begin forming in the leaf bases of the lower leaves first. To stimulate their production it is a good plan to break off most of the lower leaves of the plants beginning about October 1st or when the buds develop. This also forces more food into the forming sprouts, the lowest of which should be picked first. **Packet, 5c; ounce, 45c.**

ITALIAN BROCCOLI

A branching herb about 2 feet high. In summer all of the lateral branches and the circle ones end in a small green open head. This, which should be cut before it actually flowers, is cooked like cauliflower or spinach and is very delicious and rich in vitamins.

The plant prefers coolness and moisture. Unless you are in a particularly favorable place, such as the sea coast, Italian Broccoli is best treated as a two-season crop. First it is started in a hotbed or greenhouse in February or March and transplanted to the open after frost. The second crop is sown in the seed bed in June or July and transplanted to the garden a month or six weeks later. The later crop can be harvested throughout the Autumn months.

Plants should be set two feet apart in rows which are themselves two feet apart. A single row of 50 plants is ample for a family of five. The soil should be well cultivated. **Packet, 5c; ounce, 90c.**

St. Valentine Broccoli. This variety is very similar to cauliflower, it must be planted with the same cultural directions. **Packet, 5c; ounce, 90c.**

KALE OR BORECOLE

This plant is widely grown for greens. Most varieties have heavy, densely curled foliage of tasty greens, and the dwarf variety is desirable for ornamental garden use. The culture is practically the same as that of late cabbage, but as the plants will withstand several degrees of frost, they grow late into the fall. They are more tasty after the first light frost.

Emerald Isle. Grows to medium height and is exceedingly hardy. Best for greens because of their very fine flavor. Produces new shoots as fast as leaves are used. The leaves are closely curled. **Packet, 5c; ounce, 15c; ¼ pound, 45c; 1 pound, $1.25.**

Tall Green Curled Scotch. This variety grows about 2 feet high and has splendid dark green, curled and wrinkled leaves. It is very hardy and vigorous grower. Improved greatly after first slight frost. **Packet, 5c; ounce, 15c; ¼ pound, 45c; 1 pound, $1.25.**

Dwarf Green Curled. Exceptionally fine for ornamental garden use, also good for greens. The leaves are beautifully curled and a brilliant green. **Packet, 5c; ounce, 15c; ¼ pound, 45c; 1 pound, $1.00.**

Cow Kale or **Thousand Headed.** The most valuable green feed for Pacific Coast dairymen. It is grown the same as stock cabbage. **Packet, 5c; ounce, 10c; ¼ pound, 20c; 1 pound, 50c, postpaid.**

Why Disinfecting Seed Before Planting Pays

Of all the diseases that contribute to this immense annual loss, those carried on the seed are among the most important. Seeds of all plants generally carry on their exteriors spores of harmful as well as harmless disease organisms. That seeds carry disease spores is not a recent discovery. It has been known since 1755 when Tillet proved seed wheat carried smut. Today well over 200 different disease organisms have been reported by scientists as commonly carried by farm, flower and vegetable crop seeds. In fact, the seeds of many plants are recognized as the agents for world-wide distribution of certain dangerous diseases.

Seed-borne diseases are more insidious than most other types, as they do irreparable damages before their presence is known. Most growers are familiar with the destruction by smuts of small grains, root-rots of corn, scab of potatoes, certain boll-rots of cotton, damping-off of flower and vegetable seedlings and many similar diseases, which are surface seed-borne. These organisms, besides infecting the mature plants, may slow up germination, cause seed rotting and seedling damping-off, all of which results in poor stands and weakened plants that fail to yield paying crops of best quality.

CONTROL OF SEED-BORNE DISEASES

In 1807 Prevost of France proved "bluestone" would control stinking smut carried on seed wheat. Since then it has been found that the diseases transmitted on the surface of the seed are as a rule, the easiest to control of all types of those infecting plants.

Early this century the organic mercuries were found to be very effective in killing many disease organisms carried on seeds, without injury to the seeds. This led to exhaustive investigations of these compounds. After years of intensive research the present Du Bay Seed Disinfectants were developed.

The prevention of disease by treating seeds before planting with the effective, easily applied Du Bay Disinfectants is less costly and returns greater profits per dollar invested in control than do most methods for combating diseases spread by other means. Years of continued use prove this!

SEED TREATMENT PAYS

Du Bay Seed Disinfectants pay large profits by destroying disease organisms before they can do damage; by preventing seed rotting in cold, wet soils; by reducing damping-off of emerging seedlings; by producing better stands of more vigorous plants; by increasing yields; and by improving crop quality.

A convincing illustration that seed corn treatment pays is furnished by the results of years of research by the Illinois and Iowa Agricultural Experiment Stations with the organic mercuries. Their average yield increase from treatment of farmers' seed corn was 3.25 bushels an acre. If you price this increased yield at 63.29 cents a bushel, the ten-year average farm price of corn, the return is $2.05. Deduct the cost of treatment with New Improved Semesan Jr of 2 cents an acre —the profit is $2.03, or a 10,150% return on the money spent for disinfectant.

Remember, it is not easy to determine whether seeds are contaminated or soils are infected with organisms that cause decay and consequent reduction in yields. Use practical crop insurance against surface seed-borne disease losses—TREAT YOUR SEED THIS AND EVERY YEAR.

DANISH BALL HEAD CABBAGE

Copenhagen Market. Heads small, round, and solid. Plants compact with short stems.

Golden Acre. Earlier than Copenhagen Market. Heads are small, round and solid. **Packet, 5c; ounce, 40c; ¼ pound, $1.25.**

MID-SEASON VARIETIES

Dwarf Flat Dutch. Heads globular and solid. Plants are dwarf with short stems.

LATE VARIETIES

Danish Ballhead. Most widely used type of late cabbage. Heads deep, round with hard compact interior, stubby with short stems.

Late Flat Dutch. Large, flat, solid heads 6½ to 7 inches deep.

Other varieties—**Danish Roundhead, Red Rock, Late Savoy, Wong Bock** and **Chinese Petsai.**

CABBAGE

This vegetable will not stand extreme heat or dryness and will grow well only where there is adequate moisture and cool weather. Most good garden soil will produce satisfactory cabbage if it is properly enriched. Commercially it is grown on soil ranging from sandy loam to very hard clay or even mulch. Perhaps what is more important than texture is soil moisture. This must be adequate and conserved by constant cultivation. Most important of all is fertility, no crop repays so richly the expenditure of fertilizer as cabbage. It is most advisable to use a commercial fertilizer that could be applied before planting at the rate of 11 pounds to a 100 foot row. It is also advisable to top dress about three weeks after the plants are set out with Nitrate of Soda at the rate of 1¼ pounds to 100 foot row. The Nitrate of Soda application is necessary only for the early varieties.

Sow seed in flats during February and March, use normal soil as richly fertilized types will cause the seedlings to grow too fast and become spindly. When seedlings are 3 to 4 inches high replant further apart in flats or boxes. This insures stocky instead of spindly plants and makes them a month or six weeks earlier than if the plants were set out. Cabbage should be set out at different intervals depending upon variety. Early varieties should be set about 14 inches apart in rows 28 inches apart. Late season varieties should be set 24 inches apart in rows 36 inches apart. If planted much closer they would be crowding and result in small heads. Prices unless otherwise noted: **Packet, 5c; ounce, 25c; ¼ pound, 85c.**

EARLY VARIETIES

Early Jersey Wakefield. Small compact, conical heads. Plants small, short stemmed.

CRESS

True Water Cress. A very distinct variety of cress with tasty, small, oval leaves. Grown easily in shallow ponds or along the edges of small streams. Excellent for all kinds of salad. **Pkt., 5c; ounce, 45c; ¼ pound, $1.50, postpaid. Curled** or **Pepper Grass.** Its leaves have a very pleasant pungency, which gives it the common name "Pepper Grass." The spicy foliage is frilled or curled, making it very attractive for salad trimmings. Sow thickly in drills. **Packet, 5c; ounce, 15c; ¼ pound, 45c, postpaid.**

OKRA OR GUMBO

Grown for its green pods, which are used in soups, stews, etc., for their rich flavor and substance.

Improved Dwarf Green. Very early, with long, green, slender pods. **Packet, 5c; ounce, 15c; ¼ pound, 35c, postpaid.**

White Velvet. Large pods, smooth or very slightly ribbed. Remains tender a long time. **Packet, 5c; ounce, 15c; ¼ pound, 35c, postpaid.**

RUTABAGA OR SWEDE

Improved American Purple Top. The leading variety. Large, immense yielder. Superior in every way. **Packet, 5c; ounce, 15c; ¼ pound, 25c; 1 pound, 75c, postpaid.**

SALSIFY

Mammoth Sandwich Island. Roots large, smooth, very hardy. May remain in ground during winter or be stored in dry earth or sand. **Packet, 5c; ounce, 20c; ¼ pound, 55c; 1 pound, $2.00, postpaid.**

CARROTS

Sow seed rather thickly in drills about ½ to ¾ of an inch deep, the rows being 12 to 24 inches apart depending on hand or machine cultivation. After the plants are up about 5 inches they should be thinned out from 3 to 4 inches apart in the rows. If the soil is rich there will be no trouble about root development. Young, tender, quick growing carrots are better flavored than the old or slow growing type. If the soil is not rich apply a complete commercial fertilizer at the rate of 6 pounds per 100 foot row. It takes about 1 ounce of seed for a row of this length.

In order to have tender, juicy carrots all season long it is advisable to make small sowings at regular two-week intervals up to the middle of July. Later sowings may not mature before early frost.

Carrots like all root crops should be protected against soil insects such as maggots, worms and wire worms. The best control is crude Naphthalene Flakes worked in the soil a few days before planting the seed. **Packet, 5c; ounce, 15c; ¼ pound, 35c; postpaid.**

Imperator. An outstanding type bred for market garden use and for shipping. Tops are medium, but strong enough for good bunching. Roots 7½ to 8 inches long with sloping shoulders, smooth, deep rich, orange, uniformly tapered to blunt end. Flesh rich orange, color extending to the center of the root with distinct core.

IMPERATOR CARROT

P. S. C. New Coreless. Larger than all other varieties. Crisp, solid, and uniform in size. Truly the outstanding carrot for tasty, crisp vegetable salads during the hot summer months. A genuine stump-rooted type.

Danvers Half Long. Grown mainly for its productiveness and adaptability to all classes of soil. A fine quality carrot of uniform size and shape. Sweet, crisp, tasty and tender deep orange flesh.

Chantenay (Half Long). Well adapted for home gardens. Requires little cultivation and care. Ideal for lazy gardeners. Medium size tops, small necks, slightly tapering roots, stump-rooted and smooth.

Other Varieties: **Improved Long Orange, Oxheart, Early Scarlet Horn, French Forcing.**

STOCK CARROTS

P. S. C. Yellow Giant. Especially adapted to wet, heavy soils. Half long roots, broad shoulder, growing half out of the ground. Bright yellow flesh. Producing a heavy crop that is most excellent for dairy cows.

Large White Belgian. One of the oldest and best known stock carrots. Roots 12 inches in length, producing a heavy yield of marvelous quality.

Mastodon. Improved short white flesh, with smooth roots. Very heavy at shoulders, tapering.

CELERY

Successful celery culture is based on the right climate and the right soil. As to the first the plant requires coolness as well as sufficient moisture.

No garden crop grown is such a rich feeder as celery. The soil must have depth and mellowness and an abundant supply of moisture. It is impossible to grow celery in hard or sun-baked soil. It is advisable to prepare the seed bed with a good commercial fertilizer and peat moss using about 6 pounds per 100 foot row. This should all be done about three weeks before the plants are set in the garden.

In growing celery from seed it is advisable to start the seed in flats and later transplant when the small plants are approximately 5 inches tall.

Golden Self Blanching. Indeed, one of the best early spring varieties for Northwest gardens. The long, crisp stalks mature to a beautiful golden yellow, which are easily blanched to a creamy white. **Packet, 5c; ounce, 50c.**

Golden Plume. Superior quality, vigorous growing. A favorite with home gardeners. Semi-dwarf in habit. Fine flavored stalks that are brittle, stringless and blanch quickly. **Packet, 5c; ounce, 50c.**

Winter Queen. Matures in the winter and spring. Very compact growth, with large heart. Stalks blanch to cream white. Ribs are solid, crisp and free from strings. **Packet, 5c; ounce, 25c.**

White Plume. The very earliest known variety. Stalks are exceptionally crisp and tender with inner leaves and tasty white heart. **Packet, 5c; ounce, 25c.**

MT. HOOD SNOWBALL CAULIFLOWER

Early Snowball. Adapted very well to forcing as well as outdoor planting. Plants are compact, producing medium to large, round heads that are pure white when blanched. **Packet, 5c; ounce, $1.75.**

Other Varieties—**Large Algiers, Autumn Giant.**
Packet, 5c; ounce, $1.25.

CHICORY

Witloof. This variety has become exceedingly popular for winter salads. It forms a delicious dish when served like Endive or Cos lettuce with French dressing. The leaves and stems blanch easily. Seed should be sown one inch deep during May or June and spaced about 18 inches apart. **Packets, 5c; ounce, 15c.**

Large Rooted. The roots of this plant are very popular as a coffee substitute. The young tender leaves may be used for salad or cooked for greens. Sow quite thinly in shallow drills in the spring. When well started, thin to stand 2 to 3 inches apart in the row.
Packet, 5c; ounce, 15c, postpaid.

CAULIFLOWER

Cauliflower is more difficult to grow than any other plant in the cabbage tribe, like most of them it will not stand heat and drought which limits its culture to areas free of these conditions. It is best grown in fairly cool climates where there is plenty of moisture. It will not, however, stand as much frost as cabbage or Brussels Sprouts and in very protracted warm weather it will not head. Like other members of the Cabbage family Cauliflower is divided into two groups, early varieties and the late varieties.

Soil and fertilizer conditions are the same as cabbage. It is advisable to use a good commercial fertilizer and to cultivate at regular intervals.

For quicker and better results it is advisable to start cauliflower in flats and later transplant when the young plants are about 4 or 5 inches tall. The plants should be set about 2 feet apart in rows 3 feet apart. This will allow approximately 50 head of Cauliflower to a 100 foot row. This should be more than ample for a family of five.

Solid white heads may be produced by tying the outer leaves over the center of the plant as soon as the first button-like swelling appears. Use string, tape or raffia for tying. Do not pull tight enough to injure outer leaves.

Portland Seed Co.'s Mt. Hood Snowball. One of the best early varieties that we highly recommend for early and late planting. Its pure white, fine quality heads of medium uniform size are exceedingly tasty. Popular with home gardeners as well as market gardeners. **Packet, 5c; ounce, $2.00.**

Danish Giant. Outstanding because of its ability to yield heavily in dry weather. Its large, solid white heads mature very early if forced indoors during early growth.
Packet, 5c; ounce, $1.50.

CHIVES

The famous Schnittlauch—highly prized for flavor. The seed is not easily germinated and it will be necessary, therefore, to plant a fairly good quantity of the seed if many plants are desired.
Packet, 5c; ounce, $1.00, postpaid.

SWISS CHARD

Only the tops of this beet are used, like spinach, and the succulent stalks and midribs may be prepared in the same way as asparagus. The plants are cultivated like beets except that they should be thinned to 8 to 10 inches apart. If only the outer leaves are gathered, the inner leaves will continue to grow, and repeated pickings can be made.

Lucullus, Dark Green. The fleshy crumpled leaves of this variety make very choice greens. Plant grows erect, the stalks are rounded and finely ribbed; the foliage is a rich deep green. Favored by many because of its superior flavor. **Packet, 5c; ounce, 15c; ¼ pound, 35c; pound, $1.00.**

CELERIAC

The same culture as celery. See page 29.
Large Smooth Prague. The latest improved form with very few side roots. This is the largest and best variety of the "Turnip Rooted Celery." **Packet, 5c; ounce, 25c; ¼ pound, 75c, postpaid.**

Utah or Green Crisp Celery. Matures a week or ten days earlier than most other types of celery. Plants are sturdy, compact, and solid. Stems are broad, thick and rounded. **Packet, 5c; ounce, 50c.**

CORN

Corn is truly a native of this country, developed before the new world was discovered. It can be raised with some success in every state in the union, however, for best results it requires a growing season of seventy to eighty days and with plenty of summer heat.

Any good garden soil will grow corn but it will mature quicker and be more tender if a good commercial fertilizer is used at the rate of about 11 pounds to a 100 foot row.

Generally speaking, it is better to plant the early varieties in drills and the later varieties, of course, in hills, so spaced that cultivation may be done both ways without disturbing the plants. If your garden is of the weedy sort it is better to plant all varieties in hills because it is thus possible to control weeds easier when plants are in long rows.

For the early types make the drills 2 to 2½ feet apart and 1½ inches deep. For growing in rows put a seed every 3 inches in a drill with the expectation of thinning to 6-inch intervals as soon as possible. The thinned plants cannot be transplanted with any success.

Packet, 10c; ½ pound, 20c; 1 pound, 30c, postpaid.

YELLOW VARIETY

Golden Bantam. This variety of corn is second to none for tender, sweet and juicy ears. Although not as early as some types, its exceptionally fine quality makes it well worth waiting for. Stalks about 5 feet tall. Eight straight rows of kernels to the cob.

Improved Golden Bantam. An improved strain over the old type Golden Bantam, however, we still recommend the old fashioned variety for Northwest conditions. This newer strain has ten rows of kernels to the cob.

Golden West. A very fine early variety. Much the same flavor and tenderness as Golden Bantam and exceedingly popular with market gardeners. Ten to twelve rows to the cob.

Early Sunshine. One of the early varieties of sweet corn. Matures 3 or 4 days earlier than the majority of others. Taller and more vigorous with 12 rows to the ear.

Other Varieties—**Golden Giant, Golden Evergreen.**

WHITE VARIETY

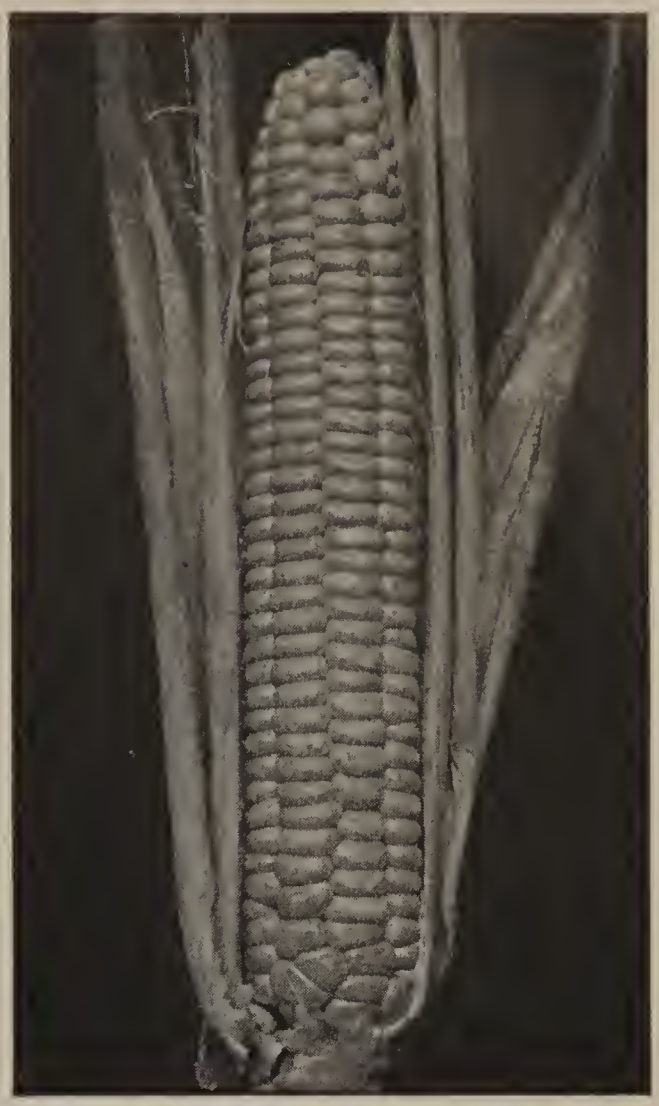
Stowell's Evergreen. Remarkable for remaining in a fresh condition for a long period. Plants 7 to 7½ feet tall. Ears 8 inches long, 2¼ to 2½ inches thick; 14 to 20 rows to the cob. The most popular white variety of sweet corn.

Oregon Evergreen. Earlier than Stowell's and just as fine and sweet. An exceptionally fine canning variety because of its uniform medium to large ears with 12 to 18 rows.

Other Varieties — **Early Portland Market, Country Gentleman, Black Mexican, Early Evergreen, Early Minnesota, Howling Mob, Peep o' Day** and **White Cory.**

FIELD CORN

We offer the following varieties: **Minnesota "13", Oregon Yellow Dent, Pride of the North, Northwestern Dent, Champion White Pearl, White Flint, Wisconsin White Dent** and **King Philips.** We will gladly quote prices on inquiry.



GOLDEN BANTAM CORN

POP CORN

Butter Crisp. The kernels of this variety pop out large and fluffy and resembles buttered pop corn because of its creamy color.

Packet, 10c; 1 pound, 25c.

White Rice. The standard variety for many years. Kernels pop out large and snowy white. Exceedingly well flavored.

Packet, 10c; 1 pound, 25c.

NEW 3 IN 1 CORN Here is an ideal new corn for the home gardener. One planting gives three different ripening times. Two weeks between each group. Be sure to try some of this 3 in 1 corn. **Packet, 15c; ½ pound, 20c; 1 pound, 35c.**

Golden Cross Bantam. This hybrid is undoubtedly one of the best and most prolific of the yellow sweet corns. The ears are 8 to 10 inches long with 14 to 16 rows of kernels, slightly lighter in color and yielding about 40% more marketable ears than Golden Bantam. Grows 5 to 6 feet high with sturdy stalks and deep green foliage. **Packet, 10c; ½ pound, 20c; 1 pound, 35c.**

COLORADO CUCUMBER

Boston Pickling or **Green Prolific.** Truly the finest and most popular pickling variety. The tasty, bright green fruits range from 4 to 5 inches in length and are exceedingly productive. Fine for home and market.

Davis Perfect. A vigorous grower. Fruits long, dark green, crisp and tender. Holds its color exceedingly well after picking, which makes it a favorite with the market gardeners. Seed cavity is small, making them very desirable for home and market uses. One of the outstanding varieties for Northwest climate.

CUCUMBERS

All Cucumbers—Packet, 5c; ounce, 15c, postpaid.

Gardeners with limited space cannot afford to plant cucumbers, which for outdoor culture must be planted in hills at intervals of at least 4½ feet each way. The plant is a sprawling tendril-bearing vine. It requires considerable heat, a lot of moisture and a rich soil. Cucumbers are much more sensitive to frost than most vegetable crops. They can only be grown in regions that not only have plenty of heat but a frost-free period of 75 to 90 days.

Warm sandy loam especially if it has a gentle slope southward is the best soil for out-door cucumbers. No other method of fertilizing is so satisfactory as putting 2 quarts of thoroughly rotted manure under each hill or a scant wheelbarrow load is better. Broadcasting manure or fertilizer for plants spaced so far apart is merely wasteful.

See that the manure is covered sufficiently so that no seed touches it. This is easily accomplished by forming a circular hill about a foot wide and 4 inches deep over each lot of buried manure, the site of which had better be marked with a stick, if some days intervene between burying and planting time.

Planting cannot be done until warm or hot weather is assured. Plant six seeds to each hill expecting to reduce them to three as soon as germination is complete, selecting the three best plants. The seed should be planted about 1½ inches deep.

As the vines become large they will fill all of the space between the hills, so it is very important that you cultivate thoroughly while the plants are still young.

Diamond Long Green. Truly the outstanding of the large varieties. It is extremely crisp and tender, sweet, very fine for slicing. It is best for sweet pickles when matured.

Improved White Spine. An outstanding variety for table use. It is one of the early types and exceedingly tasty. Uniformly straight and handsome light green fruits, with a few white spines.

Colorado. Cucumber Colorado won the All American 1935 Award of Merit and is destined to become one of the most popular varieties. One of its outstanding qualities is that it does not taper but is practically the same size from end to end. The fruits are dark green, 9 to 12 inches long and will yield more slicing cucumber than any other variety of approximately its size. Is highly recommended for the shipper and market garden.

Other Varieties—**Short Green** or **Early Frame, Lemon, Japanese Climbing, Small Gherkin, Deltus, Vaughn.**

ENDIVE

Culture similar to lettuce. Outer leaves should be tied over the head to bleach. **Packet, 5c; ounce, 10c; ¼ pound, 35c, postpaid.**

EGG PLANT

Black Beauty. Extra early, quick growing, vigorous variety, uniform size. Color deep, blackish purple. Excellent for market. **Packet, 5c; ounce, 60c; ¼ pound, $1.75, postpaid.**

New York Improved Large Purple. Leading market variety. Not quite as early as Black Beauty. Large and productive. **Packet, 5c; ounce, 60c; ¼ pound, $1.75, postpaid.**

FENNEL

Florence Fennel. An Italian vegetable with thick leaf stem. Served boiled or sliced, also cooked in soups. Easily grown. **Packet, 5c; ounce, 25c, postpaid.**

LEEK

American Flag. Used very extensively throughout the entire country. A very strong hardy grower that is very easily cultivated in the home garden. It is broad leaved, with rather short but very thick stems. **Packet, 5c; ounce, 25c.**

Large Rouen. A very hardy variety, with short, thick, well-blanched stems and dark green leaves. **Packet, 5c; ounce, 25c.**

LETTUCE

Crisp, tender lettuce, the most desirable of all salad plants. Can best be grown with the strictest attention to its moisture, soil and climatic requirements. There are many varieties and types of lettuce, however for the home gardener we can segregate them into two varieties, namely, head variety and looseleaf variety. The first is by far the most desirable but the most difficult to grow. The second is less desirable but so much easier to grow that most beginners will do well to select one of its varieties.

Lettuce can easily endure several degrees of frost especially in the seedling stage which greatly facilitates the handling in the early spring. However, this popular vegetable cannot be grown in extreme heat.

Any good garden soil will grow lettuce of a sort but the most favorable soils are rich sandy loam. Some varieties like Grand Rapids do best on good heavy soils with considerable clay in them. Lettuce soils should not be acid, if they are in this condition they should be limed. However, more important than the texture of the soil is the problem of moisture. If this is not available do not attempt to grow this vegetable.

HEADING VARIETIES

Packet, 5c; ounce, 15c

Portland Seed Co.'s Crispette. Heads are large, firm, crisp and tender. Bright green, curly leaves cover the outside. Solidity of the heads is insured by the large, white main ribs of leaves which curve toward the center. Withstands hot weather far better than most varieties and exceedingly tasty.

New York or **Wonderful.** The best head lettuce market gardeners. It is large, very solid, tender, crisp and sweet. Beautifully blanched to a creamy white with bright green outer leaves. A very hardy and rapid grower, also deep rooted.

Hanson (Improved Hard Heading Stock). One of the very best. The heads are green on the outside and cream colored on the inside. It withstands the hot sun very well and stays crisp for quite some time.

Other Varieties—**Brown Dutch, New York 12, Big Boston.**

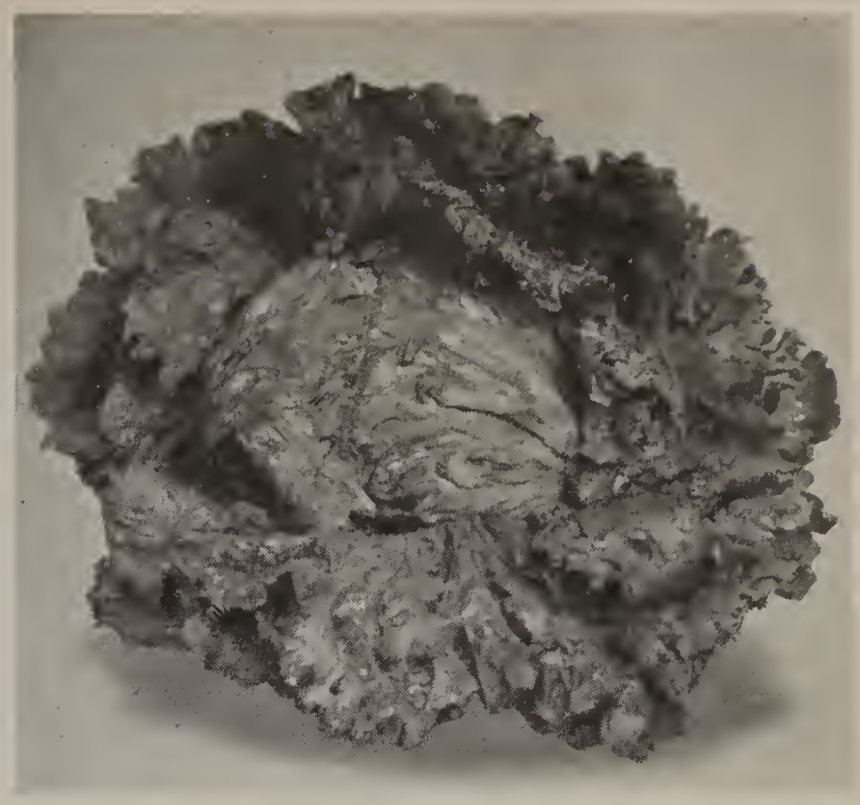
LOOSE-LEAF VARIETIES

Packet, 5c; ounce, 15c

Grand Rapids. This variety is the standard hothouse lettuce for forcing. It also does exceedingly well in the open ground. The leaves are light yellowish green, slightly crimped, crisp and tender.

Simpson's Early Curled. Very fine for early planting and forcing. The leaves are finely curled and wrinkled. It is very tasty and crisp and does not wilt readily.

Other Varieties—**Chicken Lettuce, Prizehead.**



NEW YORK HEAD LETTUCE

Herb Seed for Planting

ANISE. Used as a cordial and for garnishing and flavoring. Seeds have an agreeable aromatic taste. **Packet, 10c; ounce, 35c.**

BALM. Leaves are fragrant and are used as a tea for fevers. **Packet 10c; ounce,50c, postpaid.**

BASIL (Sweet). The leaves are used for flavoring soups, stews and highly seasoned dishes. **Packet, 10c; ounce, 50c.**

FENNEL (Sweet). The boiled leaves are used in sauces. **Packet, 10c; ounce, 30c.**

HOREHOUND. Leaves used for seasoning. **Packet, 10c; ounce, 75c.**

HYSSOP. Used as a stimulant and a mild tonic. **Packet, 10c; ounce, 75c.**

BORAGE. The leaves are used for flavoring and the flowers furnish bee pasture. **Packet, 10c; ounce, 50c.**

CARAWAY. Grown for the seeds, which are used extensively for flavoring of bread, pastry, etc. **Packet, 10c; ounce, 25c.**

CATNIP or CATMINT. The leaves are used for seasoning. It also makes an excellent bee pasture. **Packet, 10c; ounce, $1.00.**

CORIANDER. The seeds are used in the manufacture of liquors and confectionery. **Packet, 10c; ounce, 25c.**

DILL SEED. For planting. **Packet, 10c; ounce, 20c; pound, 50c, postpaid.**

MARJORAM (Sweet). The leaves and the ends of the shoots are esteemed for seasoning in summer and are also dried for winter use. **Packet, 10c; ounce, 75c.**

ROSEMARY. The aromatic leaves are used for seasoning. **Packet, 10c; ounce, $1.00.**

RUE. For medicinal purposes. **Packet, 10c; ounce, 50c.**

SAGE. The most extensively used of all herbs as a seasoning for dressing. **Packet, 10c; ounce, 75c.**

SUMMER SAVORY. A hardy annual. The dried stems, leaves and flowers are extensively used for flavoring, particularly in dressings and soups. **Packet, 10c; ounce, 75c.**

THYME. Used for seasoning. **Packet, 10c; ounce, $1.00.**

WORMWOOD. Used medicinally and is beneficial for poultry. **Packet, 10c; ounce, 50c.**

TRUE LAVENDER. Used chiefly in the manufacture of perfumery. **Packet, 10c; ounce, 75c.**

BLACK-SEEDED ICE CREAM MELON

MELONS

The term melon, as commonly used, includes the fruits of two distinct types, namely the Muskmelon or Cantaloupe and the Watermelon. Both of these types require hot weather during the day and warm evenings in order to fully ripen the fruit. We do not recommend growing melons in the Western section of the Northwest, however, there are certain types that do fairly well in this section.

Melons thrive on a well-drained fertile soil; for early crops a light, sandy loam is preferred. Excessive alkali should be avoided. Manures or fertilizers are not generally used in the principal producing regions, the fertility being maintained by rotation and the use of green manure crops. However, where this is not available, it is advisable to use a good commercial fertilizer in a mild manner.

In growing melons it is necessary to allow a great deal of room for spreading vines. The seed may be planted as soon as the ground is warm and weather conditions permit. The hills should be approximately 6 feet apart.

WATERMELONS

All Watermelons—Packet, 5c; ounce, 15c, postpaid

Klondike. Rind is a beautiful dark green and exceptionally thin. The interior of the melon is a distinctive flesh color. Grow uniform in shape and size and ship very well.

Sweetheart. The vines are vigorous and productive. Fruits are large, oval, heavy mottled, dark and bright green, rind thin, flesh bright red, firm, sweet and tender.

Kleckley's Sweet or **Monte Cristo.** Distinctly a home garden melon as the dark bluish-green rind is so crisp that it breaks easily. The long, oval fruits are slightly larger near the blossom end. They weigh from 25 to 30 pounds and ripen in a little over one hundred days. For home gardeners we highly recommend this variety.

Black-Seeded Ice Cream. The melon is almost round, with a thin rind of medium green. The inside flesh is pink and exceptionally sweet and fine flavored. This variety matures early and is a fine keeper.

Other Varieties—**Rattlesnake, Stone Mountain, Tom Watson, Irish Grey, Cole's Early, Black-Seeded Chilean.**

MUSKMELONS

All Muskmelons—
Packet, 5c; ounce, 15c, postpaid

Sugar Rock. The fruits are oval, large size, without ribbing and netted in the manner characteristic of these melons and from which they take their names. Matures in about 85 days from sowing seed, in ordinary weather conditions. The flesh is deep and thick, a beautiful orange color, with a sugary delicious flavor that is unexcelled.

Hearts of Gold. The rind is firm and densely netted. Rich, fine-grained, orange colored flesh is excellent in flavor. The seed cavity is small and in all the melon is a very fine shipper.

Rocky Ford Pollock 10-25. The fruits are uniform and heavily netted. The flesh is very sweet and tasty with a salmon-orange tint.

Other Varieties—**Burrel Gem, Large Yellow Cantaloupe, Small Green Nutmeg, Osage** or **Miller's Cream, Early Hackensack, Hale's Best, Honey Dew Pink Flesh, Honey Dew Green Flesh, Perfecto, Speer, Banana, Persian.**

CASABA MELONS

Golden Beauty. A beautiful bright golden yellow, wrinkled skin. The fruits are globular shaped and mature very early. The flesh is white and very thick. Exceedingly tender, rich, juicy and "honey sweet." **Packet, 5c; ounce, 15c, postpaid.**

INSECTS DESTROY MILLIONS ANNUALLY. SPRAY OFTEN.

ONIONS

There are two types of onions that are most commonly grown by home gardeners—the young green or bunching onions and the mature bulb or dry onion. Green, or bunching onions, may be produced from seed, sets or multiplier bulbs. The set method is generally used among most home gardeners for the earliest green onions. However, the seed method produces a much better quality of onion and is the common method among the market gardener trade.

Dry onions may be produced from sets, but they are usually rather poor quality and very poor keepers. We therefore recommend, wherever it is possible, growing onions from seed.

Onions require a rich, well drained soil, but any good garden soil will be satisfactory so long as it is not too stony. To be sure that the soil is rich enough, use a pound of well rotted manure to each square foot, and in addition use four or five pounds of commercial fertilizer to each 100 square feet.

The soil must be moist, as the plants will not thrive in dry sites. Onions are grown successfully in nearly all but the desert states, but they thrive best in the comparatively cool sites.

RIVERSIDE SWEET SPANISH

Oregon Yellow Danvers. Bulbs large, half globe, small neck, with thin brownish skin. Flesh firm, white and fine grained. Ripens early and a good keeper. **Packet, 5c; ounce, 20c, postpaid.**

White Bunching. Outstanding for green onions. The young sprouts are crisp and mild, attaining a good size before the bulb forms.

Packet, 5c; ounce, 20c.

Riverside Sweet Spanish. A large globe-shaped brown onion, weighing one to three pounds. Flesh mild and sweet

Packet, 5c; ounce, 20c.

Crystal Wax Bermuda. Medium size, pure waxy white. One of the mildest sorts grown.

Packet, 5c; ounce, 20c.

Other Varieties—**Australian Brown, Prizetaker, Yellow Globe Danvers, Large Red Weathersfield, White Portugal, Yellow Bermuda,** and **Bottom Onion** sets.

PARSNIPS

Culture same as for carrots. May planting considered best.

Hollow Crown or **Long White.** Long, white, smooth, tender, sugary, excellent flavor. Very hardy. Will keep through the winter without protection. **Packet, 5c; ounce, 15c, postpaid.**

PEPPERS

Continuous warm weather for best results. Seed should be started in hot beds as it is slow in germinating. Set plants in ground when about 2½ inches tall. A moderate dressing of guano, or commercial fertilizer, hoed into the soil after plants are well established, will give better results. **All varieties of Peppers: Packet, 5c; 1 ounce, 60c, postpaid.**

OTHER VARIETIES

Perfection Pimento.
Large Bell or **Bull Nose.**
Cayenne.
Chinese Giant.
Ruby King.
Chili.
California Wonder.

PARSELY

Packet, 5c; ounce, 15c, postpaid.

Plain. Plain leaves, flat, dark green. Used for flavoring and drying.

Turnip Rooted or **Hamburg.** Roots used for flavoring soups, stews, etc.

Extra Double Curled. Dark green, moss-like leaves, finely curled.

PUMPKINS

Pumpkins are grown much the same as melons, but are less sensitive to cold weather. They are best after the first light frosts, usually during the months of October and November. Seed should be planted during the early part of May, in hills 6 to 8 feet apart in all directions. Every garden should have a few hills of this truly American vegetable.

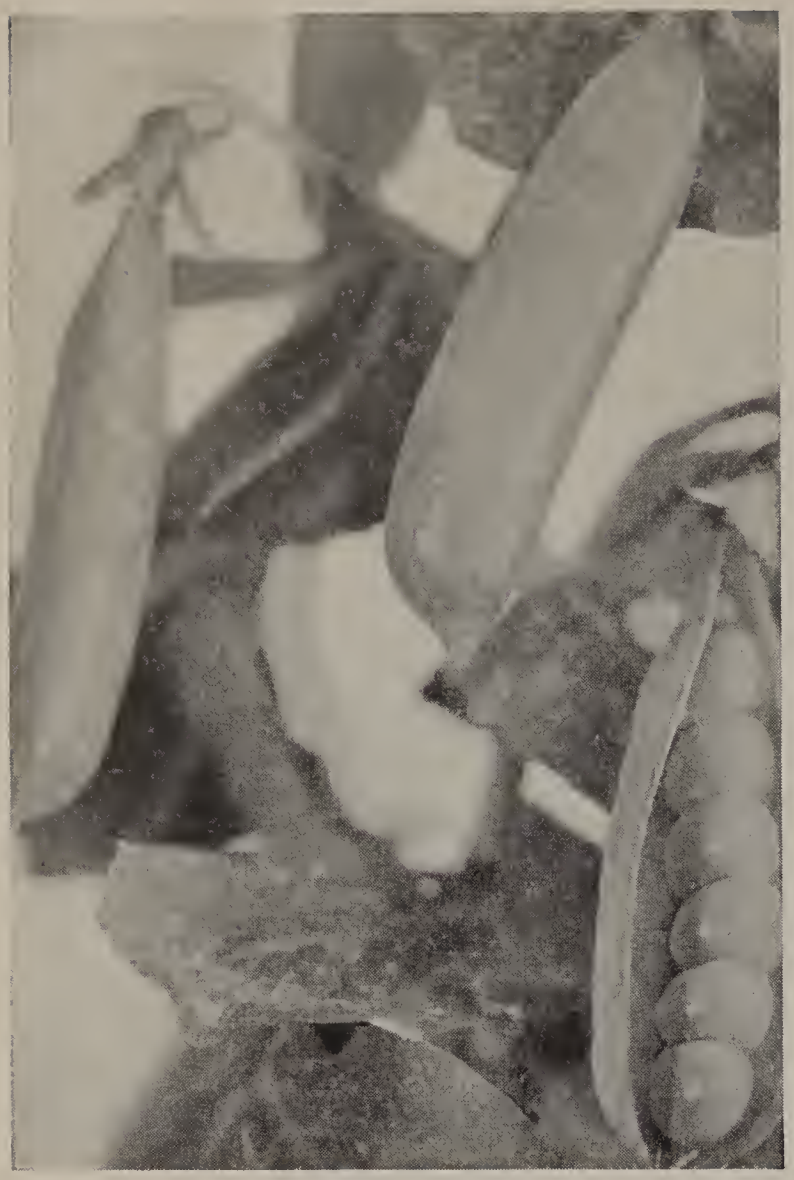
All varieties of pumpkins: Packet, 5c; 1 ounce, 15c, postpaid.

Large Yellow or **Connecticut Field.** Large, round. Deep, glossy yellow. Very productive. Good keeper. Grown extensively for stock feeding.

Giant of All ("King of Mammoths"). Almost a globe in shape. Skin a rich golden yellow, flesh firm, fine grained and deep yellow, sweet flavored, very thick. Excellent quality.

Winter Luxury. The best flavored pie pumpkin grown. Excellent keeper. Medium size. Color golden russet, finely netted. Flesh deep golden, sweet, tender and very thick.

Sweet or **Sugar.** A productive small pumpkin. Skin orange, flesh deep yellow, fine grained. Very sweet. The famous "New England Pie Pumpkin."



ALDERMAN PEAS

PEAS

The garden pea combines two features of great value. It is not only very nutritious and rich in Vitamins A, B and C but provides many advantages of clean vegetable, hence, its first great importance as a garden crop. For best results this crop is grown in a cool mild climate.

Peas do well on practically all types of garden soil. Best results may be obtained by using a good commercial fertilizer at the rate of 4 pounds per 100 foot row. Also for a better crop it is advisable to inoculate with Nitragin.

Almost no garden crop is so easy to start as peas. Peas of the low sort should be planted just as early as the ground can be worked. You need not wait for the last erratic late frost. Sowing pea seeds should be practically the first spring activity in the vegetable garden. Tall varieties are better planted about ten or fifteen days later than the lower sorts.

For the first planting of the low varieties make the drills about two inches deep, or 1 inch deep if the soil is heavy and has much clay in it. Later planting should be in drills about twice this depth but only half filled at first. As the plants grow the trench is gradually filled up. The object of this deeper drill for the later planting is to secure greater coolness and moisture for the roots and plants that will have to face greater heat.

Peas need only sufficient cultivation to keep down weeds.

EARLY VARIETIES

All Peas—Packet, 10c; ½ pound, 20c; 1 pound, 30c, postpaid.

Alaska. Height of vine 30 inches. Pods 3 inches long, blunt, straight, light green, containing 6 to 8 peas, good quality—used extensively for canning.

Gradus. Height of vine 36 inches. Pods 4 inches long, broad, plump, pointed, medium green, containing 8 to 10 sweet delicious peas.

Laxtonian. Height of vine 18 to 20 inches. Pods 4½ inches long, broad, slightly curved, pointed, deep green containing 7 to 8 large succulent peas.

American Wonder. Height of vine 14 to 16 inches. Pods 2½ to 3 inches long, blunt, straight, light green containing 6 to 7 peas.

Dwarf Gradus. Height of vine 28 inches. Pods 3½ to 4 inches long, broad, plump, pointed, medium green containing 7 to 8 large tender peas.

Little Marvel. Height of vine 18 inches. Pods 3 inches long, blunt, plump, dark green containing 7 to 8 tender peas.

Premium Gem. Height of vine 20 to 22 inches. Pods 2¾ to 3 inches long, round, straight, blunt, light green containing 6 to 7 peas of good quality.

World's Record. Height of vine 30 inches. Pods 3½ to 4 inches long, broad, plump, pointed, containing 7 to 8 large tender peas.

Thomas Laxton. Height of vine 30 to 36 inches. Pods 3½ to 3¾ inches long, plump, broad, blunt, medium green containing 7 to 8 large tender peas.

Laxton Progress. Height of vine 18 to 20 inches. Pods 4½ to 5 inches long, broad, some with curved, pointed, medium dark green containing 7 to 9 large tender peas.

LATE VARIETIES

Tall Telephone. Height of vine 40 inches. Pods 4½ to 5 inches long, broad, plump, straight, pointed, dark green containing 8 to 10 peas of highest quality.

Alderman. Height of vine, pods and color same as Tall Telephone.

Stratagem. Height of vine 26 inches. Pods 4½ inches long, ⅞-inch wide, nearly round, straight, pointed, dark green containing 8 to 10 tender, succulent peas.

Dwarf Telephone. Height of vine 22 inches. Pods 4½ inches long, broad, slightly curved, pointed, containing 8 to 10 peas.

OTHER VARIETIES OF PEAS

Blue Bantam, Hundredfold, Duke's Delight, Champion of England, Dwarf Grey Sugar, Yorkshire Hero.

RADISH

All Radishes—Packet, 5c; ounce, 15c. This is the easiest of all vegetables to raise and no garden is complete without at least one or two varieties.

The common Radish will germinate in four to five days and if grown properly will have useful roots ready to harvest in twenty-eight to thirty days. If it takes longer than this the roots will be spongy, acid or woody, hence useless. The secret of getting crisp, delicious radishes is quick growth; for this they need a rich mellow soil. Sow the seed about one-third of an inch deep in drills not over 8 to 12 inches apart.

All through the spring a succession should be sown every ten days. Keep in mind that an old radish is a worthless one and being harvested as soon as possible, they must be quickly grown and of course kept thoroughly cultivated. It is advisable to use crude Naphthalene flakes in the soil at the time of sowing seed. This will protect the crop from soil insects such as maggots and worms.

Early Scarlet Turnip. White Tipped. Turnip-shaped roots tipped with white. Flesh white, crisp, tender and sweet. Tops small. Matures very early.

French Breakfast or **Half Long.** Excellent for both home and market gardening. Tops small, roots oblong and blunt. Scarlet with white bottoms; flesh white, crisp and sweet. Splendid quality.

EARLY SCALET GLOBE

Early Scarlet Globe. Matures very early. A bright carmine-red color. Perfect oval shape and ideal size makes this an excellent radish for market. They reach this size in about 25 or 30 days and are best when not quite full grown. Sweet, crisp and tender flesh of the highest quality.

White Icicle. A popular white radish. Roots long, clear, white, especially mild.

Other Varieties—**Early Scarlet Turnip, Long Black Spanish, China Rose Winter, Crimson Giant.**

SPINACH

All Spinach—Packet, 5c; ounce, 15c. Spinach is a cool season annual, grown for greens. No spinach will stand extreme summer heat without "shooting" seed stalks. For this reason the seed must be sown early in the spring or late in the summer to avoid the danger of the crop maturing in July or August. For spring and summer use sow as early as the ground can be worked and make successive plantings every two weeks until May 15th. The leaves will be ready for use four or five weeks after sowing. For Autumn use, sow seed about August 1st. Spinach will grow very large and can be cut from the first of September until the ground freezes.

Improved Thick Leaf. Believed by many as the finest spinach on the American market today. It is the largest-leaved spinach grown and is exceedingly crisp, tender and tasty. It grows rapidly and remains in good condition a long time, making it fine for market. The medium-green leaves are large, rounded, slightly crumpled, succulent, and tender.

New Zealand. Thrives in hot weather in any soil. Leaves comparatively broad and pointed. Will grow through the summer.

Prickly Winter. Hardiest variety. Must be sown in the fall. Seeds prickly. Leaves long, pointed, thick and succulent.

Other Varieties—**Nobel Giant Leaved, King of Denmark, Long Standing.**

KOHL-RABI

This is a minor member of the cabbage tribe, the erect stem of which is swollen just above the ground level. The swollen part, while still tender and juicy has a fine flavor liked by some, but later it becomes hard, bitter, almost woody, and useless. Kohl-Rabi is closely related to the turnip and by some considered superior.

Its culture is exactly the same as for early cabbage. Kohl-Rabi is set 8 inches apart in the row and the rows can be 18 inches apart.

Whether early or late crops are grown, it is important to secure quick growth and cut the whitish thickened stems before they become tough and woody. The plant will not stand a great deal of heat.

Early White Vienna. This is the best table variety and matures very early. If used for table it is the tastiest when the bulbs are 2 inches in diameter. The plants are light green with white flesh of excellent quality. **Packet, 5c; ounce, 20c.**

Early Purple Vienna. Standard early sort. The plants are small, with dark green leaves spotted with purple. The exterior is purple, but flesh is white. **Packet, 5c; ounce, 20c.**

FERTILIZED GARDENS GROW MORE TASTY, TENDER VEGETABLES

SQUASH

If you have space and prefer to grow the vine-like forms, the hills should be at least 8x8 feet apart, but if space requirements make the bush forms imperative, and they are far easier to grow, cultivate and harvest, the hills can be about 30 inches apart each way.

It is useless to put squashes in a heavy, wet soil, for they grow too slowly in such places. It is better to select a warm sandy loam, upon which they thrive if it can be made rich enough. Being spaced so far apart, there is no use in a program of general soil enrichment for squashes, but every reason for concentrating the fertilizer under the hills. A good plan is to dig out about 2 feet of indifferent soil and fill in with a half-and-half mixture of sandy loam and well-rotted manure. Or if this is lacking, mix about 1 pound of a good complete commercial fertilizer with the soil.

For the summer squashes, unless your soil warms up very slowly, the seed should be planted directly in the hills, 4 to 5 seed to a hill, which should ultimately be thinned to 2 or 3 plants, depending upon their vigor and ravages of cut worms. It will help greatly if Naphthalene Flakes are used at the time of planting.

For the winter squashes or for any that have long, sprawling vines, it is better to start them in the hotbed, as outlned above, if you live in a region with a short growing season. Otherwise, some of the late fruits will be caught by frost before maturity. In any case, the vine-like ones should be watched to see that all the growth does not run to vine and leaf at the expense of fruit. This is especially likely in rich soils or in one that gets extra top-dressing of fertilizer. By keeping vines well pinched back it will develop better fruits.

All Varieties Squash—Packet, 5c; ounce, 15c; ¼ pound, 35c, postpaid.

WINTER VARIETIES

Improved Hubbard Squash. Large and of warty Hubbard type. Shell dark green, hard, moderately warted. Flesh light orange, very dry and richly flavored. One of the best winter squashes.

Banana Squash. One to two feet long. Flesh firm, orange yellow. Rind smooth, greyish green color. Excellent flavor and splendid keeping qualities.

Golden Hubbard Squash. Same in size, shape and quality as the green Hubbard, except that it is bright red or golden color and somewhat earlier. Excellent keeper.

Table Queen Squash. Small, dark green, acorn shape. Flesh rich yellow, dry, richly flavored. Medium early. A good keeper.

Other Varieties of Winter Squashes: **Boston Marrow, Mammoth Chili, Sibley** or **Pike's Peak** and **Warty Hubbard.**

SUMMER VARIETIES

Cocozelel or **Italian Marrow.** Skin dark green, becoming marbled with yellow at maturity. Flesh pale green, thick, firm and tender. Best when 5 to 6 inches long.

Early Summer Crookneck. Earlier and larger than ordinary crookneck. Skin yellow, thin, hard and warty. Flesh tender and of good quality.

White Bush Scallop. Early, medium size, somewhat flattened with creamy white skin. Flesh milk white, firm and richly flavored.

TURNIPS

All Varieties Turnips—Pkt., 5c; oz., 15c; ¼ lb., 25c. Turnip seed sown about the last week in July or early in August will provide a crop when they are most wanted in the late fall and winter. The plant is a biennial and if left in the ground all winter will bloom and set seed the following spring. However, we do not recommend this as the second growth plants are not hardy and many times register a crop failure.

The seeds should be sown in drills about ¾-inch deep and thickly enough so that the plants can be thinned to 5 or 6 inches apart. For hoeing or a wheel cultivator, keep the rows about 15 inches apart.

The plant does best in the loose open loam, and the product is much better if quickly grown. While it is primarily a late fall and winter vegetable, very early varieties have been developed which may be sown as soon as the ground can be worked in the spring. Such can be harvested in the early summer, and should be, because if left in the ground they will go to flower and the roots are then soon useless.

Cultivate as for any other root crop, being careful not to injure young roots with tools. The plant responds to rich soil, but top-dressing with nitrate of soda should be avoided. If necessary, use any well-balanced commercial fertilizer, working it in between the rows about 5 weeks after the seed is planted. The turnip is a cool season crop and does not like hot dry regions.

Purple Top White Globe. Large, globe shaped. Purple on top, white below. Excellent quality and highly recommended for home use as well as field crop. **Packet, 5c.**

Purple Top Strap Leaf. An early variety. Roots medium size, flat. Purple above the ground, white below. Flesh white, firm but tender and may be used for table or stock feeding. **Pkt., 5c.**

Golden Ball. Medium size, round and yellow. Flesh firm, hard and most excellent flavor. Keeps well and a fine table variety. **Packet, 5c.**

Other Varieties: Early Flat White Dutch, Early White Milan, Early Snowball, Early Purple Top Milan, Pomeranian White Globe, White Egg, Yellow Aberdeen, Cow Horn, Bortfield. **Pkt., 5c.**

TOMATOES

All Varieties Tomatoes—Packet, 5c; oz., 35c; ¼ lb., $1.00. The tomato is perhaps more tender than any other garden plant in such general culture. It is blackened by the least touch of frost, and will grow well only where there is sufficient heat. However, while many home gardeners will prefer to buy potted plants at the time they should be planted out, there is little need to do this, for tomatoes are among the easiest of vegetables to raise from seed. In your calculations for the early varieties allow 7 to 8 weeks from the time of sowing seed to the proper date in your locality for setting the plants in the garden.

The seed should be sown in fine, not too rich soil, about ¼-inch deep, either in tiny drills or broadcast as you prefer. Keep the soil moist but not wet. When the seedlings are about 2½ inches high, brick them out and replant on 2x2 inch intervals and allow them to grow until they are 4 or 5 inches high. By this time they are ready for transplanting into the open ground.

Tomatoes need constant cultivation to keep down weeds and conserve soil moisture, upon which they draw heavily. This is especially true in the early stages of the plants allowed to sprawl. Later these cannot be cultivated without injury to the tender, rather brittle stems.

Any good garden soil will grow tomatoes. Experience has shown that too much (especially nitrogenous) fertilizer or manure close to the plants makes them more likely to produce leafage than fruit. If you are prepared to pinch off the excess leaves, they may be fertilized as for any other rich feeding crop.

Bonny Best. Early, hardy and a scarlet fruit variety. Medium sized, solid, smooth and quite round. Very productive with excellent quality. **Packet, 5c.**

Chalk's Early Jewel. Fruits large, bright red, round, smooth, solid and almost seedless. Recommended for market and home gardeners. **Packet, 5c.**

Break O' Day. Wilt resistant. Vines vigorous open growth and very productive. Fruits scarlet medium to large size true globe shape. Slightly earlier than Mariglobe, an excellent variety for the home and market garden. **Packet, 5c; oz., 40c; ¼ lb., $1.40.** Prices postpaid.

John Baer. Brilliant round fruits, high crown, smooth and delicious flavor that is easily peeled. Excellent keeper, yields well and a good shipper. **Packet, 5c.**

Mariglobe. Very resistant to disease. Fruits are large, globe shaped and deep red. Excellent for slicing and canning. **Packet, 5c.**

Prichard. Newest to be introduced by U. S. Department of Agriculture. Strongest disease resisting tomato yet offered. No core, small seed pockets and evenly colored throughout. **Packet, 5c.**

Other Varieties: Dwarf Champion, Burbank, Stone, Golden Queen, Yellow Pear, Yellow Plum and Ground Cherry. **Packet, 5c.**

VEGETABLE SEED PLANTING CHART

KIND OF SEED	Time to Plant Outdoors	Distance for Plants		SEED REQUIRED		Ready to Use
		Bet. Rows	In the Row	Row	Acre	
ASPARAGUS	February to April	5 to 6 ft.	18 to 24 in.	1 oz. to 40 ft.	2 to 3 lbs.	2nd Spring
BEANS, Bush	April, May and June.	2 to 3 ft.	3 to 4 in.	1 lb. to 250 ft.	90 to 100 lbs.	40 to 65 days
BEANS, Pole	April, May and June.	4 ft.	2½ to 3 ft.	1 lb. to 125 hills	30 to 40 lbs.	70 to 90 days
BEANS, Lima	May and June	2 to 4 ft.	10 to 36 in.	1 lb. to 80 hills	50 to 60 lbs.	90 to 130 days
BEETS, Table	March to July	14 to 20 in.	2 to 4 in.	1 oz. to 100 ft.	10 to 15 lbs.	45 to 60 days
BROCCOLI*	June to August	24 to 30 in.	14 to 18 in.	1 oz. to 1500 plants	6 to 8 oz.	120 to 150 days
BRUSSEL SPROUTS*	April to June	30 to 36 in.	18 to 24 in.	1 oz. to 2000 plants	6 to 7 oz.	100 to 120 days
CABBAGE, Early*	February to April	30 to 36 in.	16 to 24 in.	1 oz. to 2000 plants	6 to 8 oz.	90 to 110 days
CABBAGE, Late*	May and June	36 to 42 in.	24 to 30 in.	1 oz. to 2000 plants	6 to 7 oz.	110 to 120 days
CARROTS	April to July	12 to 24 in.	2 to 3 in.	1 oz. to 250 ft.	3 to 4 lbs.	55 to 80 days
CAULIFLOWER*	March to June	3 to 4 ft.	24 to 30 in.	1 oz. to 1500 plants	6 to 7 oz.	95 to 110 days
CELERY*	April to July	18 to 36 in.	6 to 10 in.	1 oz. to 8000 plants	4 to 5 oz.	120 to 150 days
CHICORY	March to May, Sept.	16 to 20 in.	6 to 8 in.	1 oz. to 200 ft.	3 to 4 lbs.	90 to 120 days
CHIVES	April and May	12 to 18 in.	4 to 6 in.	1 oz. to 200 ft.	4 to 5 lbs.	125 to 150 days
SWEET CORN	April to June	36 to 42 in.	9 to 12 in.	1 lb. to 100 hills	12 to 15 lbs.	55 to 90 days
CRESS	Feb. to May, Sept.	12 to 18 in.	4 to 6 in.	1 oz. to 250 ft.	3 to 4 lbs.	45 to 60 days
CUCUMBER	April to July	4 to 6 ft.	10 to 12 in.	1 oz. to 100 hills	2 to 3 lbs.	50 to 75 days
EGG PLANT*	April and May	24 to 30 in.	18 to 24 in.	1 oz. to 1500 plants	4 to 5 oz.	125 to 140 days
ENDIVE	May and June	18 to 20 in.	10 to 12 in.	1 oz. to 300 ft.	3 to 4 lbs.	90 to 100 days
HERBS, Annual	March and April	20 to 24 in.	10 to 12 in.	1 oz. to 200 to 600 ft.	3 to 10 lbs.	125 to 150 days
HERBS, Perennial	April to June	20 to 24 in.	10 to 12 in.	1 oz. to 200 to 600 ft.	3 to 10 lbs.	Next Season
KALE	Mar. and Apr., Aug.	18 to 24 in.	12 to 18 in.	1 oz. to 2000 plants	6 to 8 oz.	55 to 60 days
KOHL RABI	March to May	16 to 24 in.	6 to 8 in.	1 oz. to 300 ft.	3 to 4 lbs.	50 to 70 days
LEEK	May to June	14 to 20 in.	4 to 6 in.	1 oz. to 150 ft.	4 to 5 lbs.	120 to 150 days
LETTUCE, Leaf	March to September.	12 to 18 in.	4 to 6 in.	1 oz. to 600 ft.	4 to 5 lbs.	40 to 70 days
LETTUCE, Head	February to August.	12 to 16 in.	12 to 14 in.	1 oz. to 3000 plants	1 to 1½ lbs.	70 to 90 days
MUSKMELON	April to June	6 to 8 ft.	4 to 6 ft.	1 oz. to 40 hills	3 to 5 lbs.	90 to 150 days
WATERMELON	May and June	8 to 12 ft.	6 to 10 ft.	1 oz. to 25 hills	4 to 6 lbs.	100 to 160 days
MUSTARD	March to May, Sept.	12 to 18 in.	2 to 3 in.	1 oz. to 600 ft.	4 to 5 lbs.	60 to 90 days
OKRA*	April and May	2½ to 3 ft.	18 to 24 in.	1 oz. to 250 plants	5 to 6 lbs.	70 to 90 days
ONION, Seed	April and May	12 to 18 in.	2 to 4 in.	1 oz. to 200 ft.	4 to 5 lbs.	125 to 150 days
ONION, Sets	October to May	12 to 18 in.	2 to 3 in.	1 lb. to 50 ft.	2 to 3 sacks	50 to 70 days
PARSLEY	March to May, Sept.	18 to 24 in.	12 to 16 in.	1 oz. to 250 ft.	3 to 4 lbs.	65 to 90 days
PARSNIP	April to June	15 to 20 in.	2 to 4 in.	1 oz. to 300 ft.	4 to 6 lbs.	130 to 145 days
PEAS, Dwarf	Nov. & Feb. to June.	18 to 24 in.	1 to 2 in.	1 lb. to 120 ft.	150 to 175 lbs.	45 to 75 days
PEAS, Tall	Nov. & Feb. to June.	4 to 6 ft.	1 to 2 in.	1 lb. to 120 ft.	100 to 125 lbs.	60 to 90 days
PEPPER*	May and June	18 to 24 in.	14 to 16 in.	1 oz. to 1500 plants	3 to 4 oz.	130 to 150 days
POTATOES, Irish	March to June	24 to 36 in.	14 to 18 in.	1 lb. to 15 ft.	7 to 9 sacks	90 to 150 days
PUMPKIN	May to July	8 to 12 ft.	6 to 8 ft.	1 oz. to 30 hills	4 to 5 lbs.	75 to 90 days
RADISH	February to Sept.	12 to 18 in.	1 to 2 in.	1 oz. to 100 ft.	8 to 10 lbs.	20 to 75 days
RHUBARB	March to June	30 to 36 in.	16 to 24 in.	1 oz. to 250 ft.	6 to 8 oz.	3rd Year
RUTABAGA	May and June	18 to 24 in.	6 to 8 in.	1 oz. to 400 ft.	2 to 3 lbs.	90 to 120 days
SALSIFY	March to May	18 to 24 in.	2 to 4 in.	1 oz. to 120 ft.	8 to 10 lbs.	120 to 150 days
SPINACH	Feb. to May, Sept.	12 to 18 in.	3 to 6 in.	1 oz. to 100 ft.	10 to 12 lbs.	45 to 60 days
SQUASH, Bush	April to June	3 to 4 ft.	3 to 4 ft.	1 oz. to 30 hills	4 to 6 lbs.	65 to 70 days
SQUASH, Winter	May to July	10 to 12 ft.	8 to 10 ft.	1 oz. to 15 hills	3 to 4 lbs.	120 to 140 days
SWISS CHARD	March to July	12 to 18 in.	4 to 8 in.	1 oz. to 150 ft.	6 to 8 lbs.	45 to 60 days
TOMATO*	April to June	3 to 4 ft.	2 to 3 ft.	1 oz. to 3000 plants	3 to 4 oz.	125 to 150 days
TURNIP	March to August	12 to 15 in.	3 to 4 in.	1 oz. to 400 ft.	2 to 4 lbs.	45 to 90 days

* Planting dates shown for crops marked "*" are intended to be for setting plants into the garden. Seeds should be sown 40 to 60 days earlier, indoors or under glass.

Seed should be covered from three to five times its diameter. Press soil down firmly. Keep moist continuously.

The above chart gives distances between rows for hand cultivation; where horse or tractor is used the rows should be farther apart.

Turf and Lawn Grass Seed

Astoria Creeping Bent. This is the most popular of all the Bents for lawn purposes. Does well on practically all types of soil and will withstand severe cold much better than other Bents. It has a beautiful pleasing green and a fine velvety texture, forming a matted turf that improves with age and will stand hard wear. One pound to 250 square feet.

Pacific Creeping Bent. This is a grade of Bent that usually consists of two or more other bents the larger percentage being Astoria Bent. Is adapted to practically all types of soil and produces an exceptionally fine turf.

Certified Seaside Bent. Discovered and developed in the vicinity of Coquille, Oregon. This is a surface creeping bent. Adapted to putting greens and golf courses, and makes a desirable addition to lawn grass mixtures.

Chewings Fescue. A hardy fine leaved grass adapted to all types of soil. Produces a permanent close turf and one that will withstand hard usage. Sow one pound to 200 square feet.

Poa Trivialis or **Shady Blue Grass.** This particular variety of grass is adapted to shady places. Its habits of growth are very similar to Kentucky Blue Grass.

Diamond Fancy Lawn with Creeping Bent. This mixture contains sufficient Astoria Creeping Bent to eventually predominate the lawn. In addition to the Creeping Bent the proper amounts of Blue Grass, Poa Trivialis and Chewings Fescue have been added so as to give you a mixture that will produce a fine velvety turf, and at the same time allowing the Bent grass to eventually predominate. Sow one pound to 200 square feet.

Diamond Fancy Lawn Grass Mixture. Prepared from the choicest recleaned grass seeds carefully selected for their fineness, their deep rooting, close growing habits and seasonal qualities, producing an ideal dense velvety turf of lasting quality that remains green throughout the year. This mixture is composed of the correct proportions of Kentucky Blue Grass, Chewings Fescue, Poa Trivialis and Red Top which are required in making a true Diamond Fancy Lawn grass mixture. Sow one pound to 200 square feet.

Diamond Shady Lawn Mixture. This mixture is especially selected for lawns that are more or less shady. Poa Trivialis grows in most shady spots where other grasses fail, therefore, we have increased the amount of Poa Trivialis in this mixture and at the same time give you the correct amounts of Blue Grass, Red Top and Chewings Fescue to produce fine velvety turf. Sow one pound to 200 square feet.

Rough Stalk Meadow Grass (Poa Trivialis). Very similar to Kentucky Blue Grass, in habits of growth. Adapted to moist soils and thrives in shady places, for this reason it is used for lawn purposes. Owing to its ability to thrive in the shade it is often called Shady Blue Grass.

Kentucky Blue Grass (Poa Pratensis). 20 pounds per acre. A Perennial with a widely creeping root stock. Producing runners and leafy shoots. The runners creep under the surface, rooting from the joints and finally producing upright leafy stems growing from 1 to 3 feet high. Blue grass prefers well drained loams and does especially well on limestone soils. It prefers medium moist conditions although it is quite resistant to drouth. Is extremely hardy, will withstand severe frost and long covering of snow without injury. It is the most important of all pasture grasses and is extensively used as a lawn grass and in lawn grass mixtures.

Red Top (Agrostis Vulgaris). 12 pounds per acre. A hardy Perennial having a wide range of soil and climatic adaptation. Thrives best on moist or wet soils and will withstand considerable drouth on poor uplands. Grows about 30 inches high, stems and leaves are fine, root stalks shallow, 2 to 6 inches long. These enable it to form a dense turf. Is generally used as a pasture plant and in pasture mixtures and is also used in lawn grass mixtures. Continual mowing causes the leaves to become much finer, giving very satisfactory lawn results.

English Rye Grass (Lolium Perennial). 25 pounds per acre. A Perennial Rye Grass quite similar in general appearance to Italian Rye Grass, growing from 2 to 4 feet in height. Differs, however, in quality, the plants are in general quite tough which makes it an unpopular grass for lawns. Makes an excellent plant for permanent pastures. Starts quickly and furnishes early grazing while other long-lived grasses are becoming established. Requires the same soil and climatic conditions as other Rye grasses.

Oregon Rye Grass. 25 pounds per acre. This distinctive type of Rye grass is common to the Pacific Northwest, west of the Cascade Mountains. It resembles Italian quite closely in habits of growth and is generally considered to be an annual although under pasture conditions in moist sections the plants may live two or three years. It makes a rapid growth, is winter hardy, stools heavily, producing an abundance of large dark green leaves and numerous fine stems. When used for hay has rapid comeback when moisture conditions are favorable. On account of its rapid growth fits well into pasture mixtures while longer lived plants are becoming established. Rye grasses have a wide range of soil adaptability making better growth than most grasses on lands of low fertility.

Agricultural and Field Seed

Grimm Alfalfa. 15 pounds per acre. The most important member of the variegated group in the United States. Introduced from Germany by Wendelin Grimm.

A very winter hardy, long-lived variety. The tap root shows a tendency to branch and the crowns are low set and spreading. These characteristics contribute much toward its ability to resist extreme cold, alternate freezing, thawing and heaving. Succeeds in most types of soil except those heavily charged with alkali, will not grow in waterlogged soil.

It is very important that all Alfalfa seed be inoculated with Nitragin A.

Cossack Alfalfa. 15 pounds per acre. An introduction from Russia and a hybrid between common and yellow-flowered Alfalfas.

Growth is generally upright with stems medium in size, plants are very leafy with fairly large leaves. Flowers are variegated ranging from white and yellow to dark purple.

Rooting system is large with heavy deep penetrating tap root being the rule. A very winter hardy variety adapted for growing under practically the same conditions as Grimm Alfalfa.

Inoculate seed with Nitragin A.

Common Alfalfa. There are various strains of common Alfalfa produced in the United States and are usually distinguished by the name of the state in which grown, such as Idaho, Oregon, Northern California, etc. Common Alfalfa from above named sections is adapted to Oregon and Washington climatic conditions. Common Alfalfa differs from the Grimm Alfalfa mainly in the root system. The tap root in common does not show the tendency to branch and the crowns are not as spreading.

Inoculate all seed with Nitragin A.

Ladak Alfalfa. An introduction from Northern India.

The growth in general is quite upright with stems medium size, plants are very leafy, medium size leaves. Flowers are variegated ranging from whitish and yellow to very dark purple.

The rooting system is extensive, with most plants being tap rooted.

One of its outstanding characteristics is its ability to produce a heavy first crop. It is sometimes referred to as one-cut Alfalfa, mainly for the reason, that under certain conditions its comeback is rather slow. It is very well adapted to conditions where only one crop of forage can be secured a year because of lack of moisture and short growing season.

It is extremely winter hardy, and long-lived and is much more resistant to bacterial wilt than Grimm, Common and other varieties closely related to these.

Inoculate seed with Nitragin A.

Alsike Clover (Trifolium Hybridum). 12 pounds per acre. A long-lived Perennial, adapted to a wider range of both climatic and soil conditions than Red Clover. Thrives well on clay, clay loams, sandy loams and muck soils providing abundant moisture is available. Will survive where soil is waterlogged, making it well adapted to growing under irrigation. An excellent pasture plant and when sown for hay is usually mixed with Red Clover, Timothy or Red Top.

To insure a good stand always inoculate your seed with Nitragin B.

Red Clover (Trifolium Pratense). 15 pounds per acre. Usually classed as a short-lived perennial and is considered the most important of all leguminous forage crops. Requires a well drained soil, does better in clay soils than in loams and better in loams than in sandy soils. Is especially intolerant to waterlogged soils.

Do not fail to inoculate your seed with Nitragin B.

White Dutch Clover (Trifolium Repens). 8 pounds per acre. A long-lived but shallow-rooted perennial. The stems creep on the surface of the ground and root abundantly. On this account the growing point is seldom injured by mowing or grazing. Grows in practically all types of soil provided moisture is abundant, thriving best in loams and clay soils. White Clover is considered to be one of the most important pasture plants, generally used in pasture mixtures and is also used to a large extent in lawn grass mixtures.

Ladino Clover (Trifolium Repens latum). 5 pounds per acre. Also known as Giant White Clover, growing about twice the size of White Dutch Clover. It is a Perennial of medium long life, having a short tap root. The surface stems lie flat on the ground and commonly produce fibrous roots at the joints. Ladino Clover usually makes a growth of 8 to 12 inches in height. Can be grown on rather shallow soils where well supplied with lime, phosphate, humus and moisture. Ladino is not a deep-rooted plant and thrives best on medium heavy type soils where there is constant but not excessive moisture. This is primarily a pasture plant and may be sown alone or with a combination of other grasses.

Mammoth Red Clover (Trifolium Pratense Perenne). 15 pounds per acre. A large variety of red clover more decidedly Perennial than common Red Clover requiring the same climatic and soil conditions. The stems are long, coarse and generally spreading. Mammoth red blooms about 10 days later than common red and grows more slowly after mowing. Its coarse growth makes the hay less relished by stock, however its heavy growth makes it an excellent soiling crop.

Inoculate the seed with Nitragin B.

White Sweet or Bokhara Clover (Melilotus Alba). 20 pounds per acre. A Biennial having a strong tap root, produces numerous leafy stems, growing from 4 to 6 feet in height when firmly established. Grows readily on practically all types of soils. Endures poorly drained soils better than Alsike, used mainly as a pasture plant and for green manure.

Inoculate with Nitragin A.

Crimson Clover (Trifolium Incarnatium). 15 pounds per acre. An annual plant having a strong tap root, shows no very marked soil preferences, succeeding on both sandy and clayey soils as long as they are well drained. From the crown of the root numerous upright stems develop which reach an average height of one or two feet. Has a high nutritive value and can be used for either hay or pasture, valuable for soiling purposes in short rotations, as the green matter produced is heavy, and the roots penetrate deep into the ground.

All seed should be inoculated with Nitragin B.

Yellow Sweet Clover (Melilotus Officinalis). 20 pounds per acre. A biennial having the same habits of growth as the White Sweet, requiring the same soil and climatic conditions. Stems are less leafy and smaller in size. The plant does not grow quite as tall and is about two weeks earlier.

Inoculate with Nitragin A.

Yellow Sweet Clover Annual (Melilotus Indica). 20 pounds per acre. Known as Yellow Blossom sour clover. Not recommended for forage or hay, used most entirely for cover crop. Soil requirements same as other sweet clovers.

Inoculate with Nitragin A.

Brome Grass (Bromus Inermis). 20 pounds per acre. A long-lived Perennial with a creeping root-stock. These are much branched, roots at the joints and produces numerous upright stems. The stems are rather stout from 1 to 4 feet high, and carry many spreading, broad smooth leaves varying from light to dark green. The upright stems produced are scattered, therefore, the plants are not tufted but form loose mats. Brome Grass is adapted to regions of rather low rainfall, endures winter cold remarkably well and no other cultivated Perennial grass has shown a higher degree of drouth resistance. Prefers rich loams and clay loams and has succeeded well in sandy soils.

Buckwheat. 25 pounds per acre. An erect growing Annual which under ordinary conditions attains a height of about 3 feet. Is not exacting as to soils. The rather light, well drained sandy loams seem best suited, however, good crops are produced on infertile, poorly tiled land.

Buckwheat is very sensitive to frost, however, the crop may be grown far toward the north. This is due to the short growing season of the plant amounting from 10 to 12 weeks. Japanese and Silverhull are the most commonly grown in the United States.

Cheat or **Chess** (Bromus Secalinus). A smooth annual grass from 1 to 3 feet tall with flat blades and open drooping panicles, sometimes grown as an annual hay crop, and should be cut when the seed is in the dough stage. Adapted to the same soil conditions as wheat. The plants are similar to those of wheat and formerly the idea was held that cheat was a degenerative or changed form of wheat whence its name.

Crested Wheat Grass (Agropyron Cristatum). 15 pounds per acre. A hardy drouth-resistant Perennial bunch grass having an extensive root system, especially adapted to regions where the temperatures are severe and the moisture supply is limited. The plants have a dense, dark green foliage during the early part of the season, after seeding the plants appear less leafy but the stems are fine and when harvested early makes hay of excellent quality, does well on practically all soils ranging from light sandy loam to heavy clay.

Dwarf Essex Rape. 8 pounds per acre. There are several varieties of rape, however, Dwarf Essex is considered to be the best, in fact is the only one used for pasture and forage crop purposes. Rape is termed as a cool weather plant, therefore is adapted to our cool moist climate here in the Northwest and is not very exacting as to soil requirements.

Rape is used extensively as a pasture plant for sheep, cattle and hogs and is generally sown in the spring when used for such purposes. It may also be used as a catch crop occupying the land for short periods or at times when it is desired to have a crop on the land between two regular season crops.

Lespedeza. 15 pounds per acre. Classed as a summer annual, however, in sections where adapted will usually reseed itself and will thus occupy the land for two or more years. The plants are usually much branched, stems wiry, bearing numerous small leaves, under favorable soil and climatic conditions the plants commonly grow about 12 inches high. Adapted to practically all types of soil if well drained near the surface. Requires a warm growing season and will not withstand frost. Used mainly as a pasture plant.

Meadow Fescue (Festuca Elatior). 20 pounds per acre. A deep-rooted, long-lived Perennial. The stems are 18 to 24 inches high, smooth, rather slender. Most of the leaves are produced by numerous sterile shoots from the root stock. The leaves are dark green, long and broad. Prefers rich moist or even wet soils, does not succeed well in sandy soils. Thrives as well as Orchard grass in shady places. It is better adapted for pastures than for meadows but may be used for both purposes.

Millet. 25 pounds per acre. The millets are rapid-growing annuals used primarily for forage production purposes. Requiring in general the same climatic and soil conditions as Sudan grass.

The plants usually attain a height of 3 to 4 feet. The stems are erect, rather stiff and the leaves are long and broad.

The seed should not be sown until the ground is warm, usually about corn planting time.

Several varieties are used here in the Northwest, the most popular being German or Golden, Early Fortune or Hershey and Japanese, also known as Billion Dollar Grass.

Mesquite (Holcus Lanatus). 20 pounds per acre. This plant is primarily adapted to moist cool climates and under such conditions is not particular as to soil.

The plants form thick, rather high tussocks. The stems are erect, growing from 2 to 3 feet high. The whole plant has a velvety appearance hence the name Velvet Grass is sometimes used. Mesquite should be sown with a mixture of other grasses, as stock does not take to it readily when grown alone.

Orchard Grass (Dactylis Glomerata). 25 pounds per acre. A long-lived Perennial forming dense circular tufts, a typical bunch grass producing no stolons and hence never forms a complete sod. The stems are 2 to 3 feet high and are crowned and surrounded at the base by numerous heavy shoots. The leaves are long, broad and flat, rather soft in texture. Grows in practically all types of soils, being best adapted to clays or clay loams. Succeeds well in shady places and also does quite well where rainfall is rather scanty, starts growth early in the spring.

Pasture Mixtures. 35 pounds per acre. Owing to the fact that so many types of Pasture Mixtures are used, we realize that it would be impossible for us to prepare in advance mixtures that would conform with the requirements of each formula recommended.

Therefore we have confined our efforts to two Pasture Mixtures only, namely UP-LAND and LOW-LAND. In these two mixtures we use only the very best grades of seed carrying a high percentage of Purity and Germination and only those seeds that are adapted to the general soil and climatic conditions throughout the Pacific Northwest and for this reason we feel that either of these two mixtures will meet with the average general requirements.

Reed Canary Grass (Phalaris Arundinacea). 8 pounds per acre. A long-lived rather coarse Perennial grass. The plants are resistant to cold both as seedlings and mature plants. The rapidly spreading short underground stems soon form a dense sod growth, starts early in the spring and continues until late fall. The plants grow from 4 to 6 feet in height. The stems are stout, smooth and seldom lodge. The leaves are broad and nearly 1 foot long.

Reed Canary is especially adapted to swampy or overflow lands of sandy, mucky or peaty nature, makes an excellent pasture plant and may also be used for hay.

Italian Rye Grass (Lolium Multiflorum Lam). 25 pounds per acre. A hardy short-lived grass, usually an annual. When seeded in spring, late summer or early fall, it makes rapid growth, furnishing grazing in remarkably short time. It is tender, very palatable to livestock and has excellent carrying capacity. The plants grow from 2 to 4 feet in height. Since Italian Rye Grass is a heavy seeder, if not kept closely grazed or mowed, many new plants appear from volunteer seeding. Adapted to the same soil and climatic conditions as other rye grasses.

Sudan Grass (Andropogon Sorghum). 25 pounds per acre. A tall annual, growing under favorable conditions to height of 4 to 6 feet. The stems are fine, leafy, perfectly erect, seldom lodging.

The plants stool abundantly and owing to the lack of root stocks never become troublesome as a weed. Sudan is grown primarily for forage production purposes and should not be sown until the soil is warm, usually about corn planting time. Many failures are traced direct to seeding in a cold soil. In general climatic and soil adaptations for Sudan are nearly identical with those of corn.

Tall Meadow Oat Grass (Arrhenatherum Elatius). 30 pounds per acre. A long-lived, deep-rooted Perennial. Strictly a bunch grass growing to a height of 4 to 5 feet. The stems are generally dark green, leafy above the middle. The leaves are long, broad and rather soft in texture, usually a bright green almost yellowish. Can be grown on practically any kind of soil provided it is fairly moist, will not endure wet soils. It is one of the most drouth resistant of the cultivated grasses. Makes a quick start after pasturing and stands pasturing well. One of the first grasses to start in the spring and the last to die in the fall.

Timothy (Phileum Pratense). 15 pounds per acre. A Perennial grass having a very short root stock and therefore grows in more or less compact tuffs. The stems which usually reach a height of from 1 to 4 feet or more are smooth and generally erect. The leaves are generally short compared with the height of the plant. Timothy is adapted to cold, moist or wet lands also heavy clay soils. However, does not thrive on sour soils or impoverished sandy or shallow soils. Although root system is shallow it stands drouth fairly well. It is very resistant to cold.

Poa Bulbosa (Winter Blue Grass). 25 pounds per acre. A perennial, and under suitable conditions forms a perpetual sod, reseeds itself freely, spreading itself both by the bulbs produced beneath the surface of the soil and bulblets on the head. This grass reverses the normal order of growth, being entirely dormant during the entire summer. The plants revive after the first fall rains, producing pasture throughout the late fall, winter and spring. Seed should be sown during the fall.

Soy Beans. 50 pounds per acre. The Soy Bean is a leguminous Annual growing to a height of 10 inches or more depending on soil conditions. The plant is erect and branching, quite leafy and producing numerous pods. The leaves vary in size and color depending on the variety. Soy Beans are a promising emergency leguminous hay crop for various places here in the Northwest.

Soy Beans grow on rather a wide range of soils, are quite drouth resistant, and will stand excess moisture providing the water does not stand for any considerable length of time.

Should be sown about corn planting time, rows about three feet apart and the seed about 3 or 4 inches apart in the row.

All seed should be inoculated with Nitragin "S".

Vetches make excellent feed, either green or as hay, and are also exceedingly useful as cover and green manure crops. They are usually seeded with grain, oats being the favorite for the reason separation is easily made when harvesting vetch for a seed crop.

Common Vetch. The most important annual legume grown in Oregon, used extensively as a green feed crop for spring and summer, also makes an excellent green manure and cover crop. Vetch is best suited to a moist cool climate free from extremes of heat or cold during the growing season. Is adapted to heavy well drained soils. The stems are slender growing from 3 to 5 feet or more in length, semi-erect. The leaves are pinnate, with about seven pairs of leaflets and a terminal tendril. The flowers are violet purple rarely white and are borne in pairs on a very short stalk.

Hungarian Vetch. A fine stemmed annual making a semi-erect growth 2½ to 4 feet in length and somewhat hairy overall. The flowers are brownish white in color and are borne in groups of from two to eight. Hungarian Vetch is quite winter hardy and is adapted to a wide range of soils, lands with poor drainage and lands that are heavy, sour and white will often produce crops of Hungarian Vetch while other crops have failed.

Hairy Vetch, also known as Sand Vetch. The stems are slender, usually growing to an average length of 6 to 8 feet. The leaves are narrow, violet blue borne on long stems in dense one-sided clusters of about 30. Hairy vetch is quite winter hardy rarely winter killing if well established in the fall, adapted to a wide range of soils doing best on sandy or sandy loams but does not succeed in very wet soils.

Austrian Winter Field Peas. A true winter variety. Plants resulting from fall seedings pass through a definite period of winter dormancy before growth begins in the spring. The plants are viny, generally similar to other varieties of field peas under average conditions attain a length of 3 to 4 feet. The blooms are purple. The peas are very hardy, zero temperatures do little damage unless freezing and thawing periods are severe. They are adapted to well drained clay and sandy loams. The Austrian pea is used for all types of forage such as hay, silage, soiling and pasture.

Canadian Field Peas. Quite similar to the Austrian Winter Field Pea. The stems and leaves are somewhat larger and the blooms are white. The variety is not winter hardy, being adapted only to moderate temperatures. They do best on loams or clay loams but will succeed on most types of soil if well drained.

The Canadian Field Pea is used for practically the same purposes as the Austrian in general farming. Both varieties are usually sown with a small grain crop.

Jerusalem Artichokes. The Artichoke is an annual reproduced by tubers somewhat similar to potatoes.

The plants grow from 4 to 12 feet in height, the stalks are medium coarse often heavily branched and very leafy and bear small yellow blossoms on the tips of the upper branches and main stalks.

In general the tubers are rough and vary from the elongated, usually slender to the almost round types, the flesh is white, eyes small and the surface coloring varies from red and blue to white and yellow.

Artichokes are adapted to practically all types of soils except those heavily charged with alkali.

Artichokes are planted like potatoes using the same machinery and following the same general practices. When planting whole tubers use 800 to 1000 pounds depending on the size of the tubers. When cut in pieces use 500 to 800 pounds per acre.

Planting is usually and preferably in the spring during April or early May.

Certified Astoria Bent. This strain of Bent Grass was discovered and developed in the vicinity of Astoria. This is a fine leafed Bent especially adapted to lawns, parks, athletic fields and golf courses. Does well on practically all types of soils. This particular strain of Bent should be used for fine lawns and may also be used in lawn grass mixtures.

Certified Seaside Bent. Discovered and developed in the vicinity of Coquille, Oregon. This is a surface creeping bent. Adapted to putting greens and golf courses, and makes a desirable addition to lawn grass mixtures.

Certified Highland Bent. Discovered and developed in the Willamette Valley and Southern Oregon. A vigorous underground creeper similar in its growing habits and requirements to that of Astoria Bent and is especially adapted to heavy cold soils.

Pacific Bent. This is a grade of Bent that usually consists of a mixture of two or more Bents the bulk being Astoria and is well adapted for lawns and parks and lawn grass mixtures.

Pruning Shrubbery

IF you want to know why the shrubbery around one house looks so much better than it does around another, a careful examination will usually reveal that the difference lies in the pruning. Lack of pruning, or improper pruning, will sometimes cause the most carefully planted landscape to appear overgrown in places, straggly in others, and with dead wood and bare places appearing in others.

If you want to do your pruning, study carefully the ultimate effect desired and the natural habits of your shrubs, and read up on the proper methods of pruning. Bear in mind that if a shrub has been properly planted, a most important step to success lies in using proper pruning methods in succeeding years. How a shrub or evergreen is pruned depends upon the nature of the shrub, its natural habits of growth, its blooming period and habit of blooming, its location in the landscape and its age.

If you are not sure of your ground, better employ, for the first year or two anyway, a man from a reliable local landscape gardening firm or nursery which has a maintenance department.

WHY ONE PRUNES

Pruning of growing shrubbery is done for a number of reasons. A shrub is pruned while it is young and before it reaches its natural full size and in order to cause it to develop into a well rounded, thick branched type. It is pruned to remove old wood and to give new wood a chance to grow up from the base. It is pruned to remove any undesirable habits of growth such as long, straggly stems. It is sometimes pruned to make it develop to some specific shape as in the case of hedges. Again, it may be pruned as a measure in control of disease or insect pests.

Thus the purpose in pruning must determine the way in which a shrub is pruned. Sometimes, one prunes in order to get the maximum bloom. Again, the desired end is colorful foliage. With some shrubs, as certain dogwoods, one prunes to induce growth of twigs which are colorful in winter.

PRUNE AT PLANTING

Any deciduous shrub, tree or other type of woody plant material not purchased balled and burlapped, needs a root pruning before planting. This consists mainly in cutting back straggling roots and taking out any pieces of broken roots. Don't be afraid to prune roots. It will mean that the roots cut back will branch out, form many more smaller feeding roots and the plants will flourish all the better. A sharp knife is best for this root pruning.

Immediately after a deciduous shrub is planted, the tops should be pruned back at least one-third and, with most varieties, cut back half way to the ground for best results. This will equalize the pruned root system of the plant, prevent excessive evaporation and enable the plant to take root more readily in its new location. It will also cause the shrub to put forth more branches and develop into a more shapely bush.

Certain shrubs will often die back part way after planting because of the wood drying out. These should be pruned to within 6 inches of the ground after planting. This applies to Tamarix, Rose of Sharon, Weigela, Buddleia, Callicarpa, bush roses and also Calycanthus.

Broadleaf evergreens, usually bought with roots balled and burlapped, do not need much, if any, cutting back on planting. This applies especially to boxwood, holly, daphne and rhododendrons. Types such as the cotoneasters, firethorns and barberries can be cut back perhaps a third if they appear "straggling". The narrow leaf or needle evergreens seldom need any pruning at planting.

PRINCIPLES OF PRUNING

First—either do your own pruning after careful study or, we repeat, employ a competent local landscape firm or nursery that has a landscape maintenance department. Never turn over the work to an unknown or ignorant man of the type known as "tree butcher", of which there are plenty who make the rounds calling at your door for work.

Second—never give your shrubbery a "boyish bob" type of pruning, that is, cutting everything back severely to a given distance from the ground regardless of every other factor. This is what the unskilled workman is likely to do.

Third—prune at the proper time of year. This is usually just after the normal blooming period of any individual shrub. Shrubs that bloom in mid-summer or late in the season should be pruned in winter or early spring before growth starts. Shrubs that bloom in early spring on new wood grown the previous season should be pruned just after blooming.

Fourth—when pruning, keep in mind the nature of the plant, its habits of growth, its needs and your purpose in pruning. Some shrubs grow to considerable height, others are dwarf. Some have the form of a miniature tree, others grow from the ground in canes. Some need to be cut back severely every year, others need only the most conservative pruning.

Fifth—be sure to use correct tools. For most pruning, a good pair of pruning shears will suffice. Heavy branches can be cut off with a pair of lopping shears or a pruning saw. Do not use an axe or hatchet to prune. Branches should never be broken off, for diseases are likely to enter the jagged end. Cut back each branch or twig to the next larger one, so that no useless stub is left.

Field Crops Planting Instructions

KIND OF SEED	Lbs. per Bu.	Sow Lbs. per Acre	Time to Sow	Depth to Sow Inches
Alfalfa—broadcast	60	18 to 22	Spring and early fall	1 to 1½
Alfalfa—drilled	60	12 to 15	Spring and early fall	1 to 1½
Artichokes, Jerusalem	50	150 to 200	March, April, May	4
Barley—drilled	48	120 to 150	March, April	1 to 1½
Beet, Mangel Stock	30	6 to 8	April, May, June	1
Beans, Navy, Field (Small)	60	25 to 30	May, June, July	1
Beans, Great Northern (Large Navy)	60	40 to 60	May, June, July	1
Bermuda Grass	40	4 to 6	March to May	½
Black Medic	60	18 to 20	Feb., March, April	½
Blue Grass, Kentucky, for lawns	14*	125	Early spring, early Sept.	½
Blue Grass, Kentucky, for pastures	14*	20 to 30	Early spring, early Sept.	½
Glue Grass, Canada, for lawns	14*	125	Early spring, early Sept.	½
Blue Grass, Canada, for pasture	14*	20	Early spring, early Sept.	½
Brome Grass	14*	20	Spring	1½ to 2
Broom Corn	48	5 to 8	April, May	1 to 1½
Buckwheat	52	50 to 60	Late spring	1 to 1½
Clover, Alsike	60	4 to 5	Winter to April	½ to 1
Clover, Alsike—in mixture	60	2 to 4	Winter to April	½ to 1
Clover, Alsike and Timothy, mixed		8 to 10	Winter to April	
Clover, Burr	12	30 to 40	Aug., Sept., Oct.	½
Clover, Crimson	60	12 to 15	July to October	½ to 1
Clover, Hop	60	10 to 12	Feb., Mar., April, Sept.	¼
Clover, Mammoth	60	6 to 10	Winter, early April	½ to 1
Clover, Mammoth, in mixture	60			
Clover, Red	60	6 to 10	Winter, early April	½ to 1
Clover, Red, in mixture	60			
Clover, Sweet, white or yellow	60	12 to 15	March to August	½ to 1
Clover, Sweet, white (unhulled)	30	25 to 30		
Clover, White Dutch	60	6 to 8	March to April	½ to 1
Corn	56	8 to 10	Late spring	1 to 1½
Corn, for Silage	56	14 to 20	Late spring	1 to 1½
Cotton Seed	32	32	April, May, June	¾ to 1
Crotalaria	40	12 to 15	April, May, June	¾
Dallas Grass	10	8 to 10	March, April, May	½
Egyptian Wheat, Shallu	50	10 to 12	May, June, July	1½ to 2
Fescue, Meadow	24*	20 to 30	Early spring, Aug., Sept.	½
Fescue, other varieties	14*	28 to 35	Early spring, Aug., Sept.	½
Hegari	50	8 to 10	April, May, June	1½
Johnson Grass	28	20 to 30	April to July	1
Kaffir—Milo—Feterita—Grohoma, (drill)	56	10 to 15	May, June	1 to 1½
Kaffir—Milo—Feterita—Grohoma, (broadcast)	56	40 to 50	May, June	1 to 1½
Kale, Thousand Headed	50	4 to 5	Mar., Apr., May, Aug., Sept.	½
Lawn Grass, mixed		125	Early spring, early fall	½
Lespedeza—Common	25	25 to 30	Early spring after frost	1 to 2
Lespedeza—Kobe	25	25 to 25	Early spring after frost	1 to 2
Lespedeza—Korean	25	20 to 25	Early spring after frost	1 to 2
Lespedeza—Sericea	60	25 to 30	Early spring after frost	1 to 2
Millets—for Hay	50	30	Late May to early July	½ to 1
Millets—for Seed	50	15	Late May to early July	½ to 1
Millets, Hungarian, for Hay	48	48	Late May to early July	½ to 1
Millets, Hungarian, for Seed	48	30	Late May to early July	½ to 1
Millets—Japanese	35	20 to 30	Late May to early July	½ to 1
Mung Beans	60	8 to 10	May, June, July	½ to 1
Oats	32	60 to 80	March, April	1 to 1½
Orchard Grass—for Hay	14*	21 to 28	Early spring, fall	½ to 1
Orchard Grass—for Seed	14*	10 to 14	Early spring, fall	½ to 1
Pasture Mixtures		30 to 40	Early spring, fall	½ to 1
Peanuts	22	35 to 40	May, June	2
Peas, Austrian Winter	60	30 to 35	Aug., Sept., Oct.	2
Peas, Canada Field, (broadcast)	60	120 to 150	Early spring	1 to 2
Peas, Canada Field, with oats	60	75 to 90	Early spring	
Peas, Cow, broadcast	60	75 to 90	May or June	1 to 2
Peas, Cow, drilled	60	25	May or June	1 to 2
Peas, Cow, in drill with corn	60	20 to 30	May or June	1 to 2
Rape, broadcast	50	5 to 8	Early May to late July	½ to 1½
Rape, drilled	50	4 to 5	Early May to late July	½ to 1½
Red Top, Solid Seed	14*	6 to 8	April or early Sept.	½
Red Top, Unhulled	14*	20 to 25	April or early Sept.	½
Rye, Grain	56	84 to 112	Sept. to Nov.	1 to 1½
Rye, Grass	24	28 to 35	April or early Sept.	½
Sagrain	50	8 to 10	Apr., May, June, July	1
Sorghum Forage, broadcast	50	40 to 50	May, June	1 to 1½
Sorghum Forage, drilled	50	8 to 10	May, June	1 to 1½
Sorghum Syrup	50	8 to 10	May, June	1 to 1½
Sorghum, grain varieties, broadcast	56	40 to 50	May, June	1 to 1½
Sorghum, grain varieties, drilled	56	10 to 15	May, June	1 to 1½
Soy Beans, broadcast	60	75 to 120	May, June	1 to 2
Soy Beans, drilled	60	25	May, June	1 to 2
Soy Beans, in drilled with corn	60	15 to 20	May, June	1 to 2
Sudan Grass, broadcast	40	20 to 30	Late May to early July	½ to 1
Sudan Grass, drilled	40	10 to 15	Late May to early July	½ to 1
Sunflower	32	6 to 8	May	1 to 2
Timothy	45	8 to 10	Spring and fall	½
Velvet Beans	60	15 to 30	May, June	3 to 4
Vetch, Winter or Hairy	60	40 to 60	June to Sept.	1 to 2
Vetch, Spring	60	40 to 60	March or April	1 to 2
Wheat, Winter	60	75 to 90	Sept. to Nov.	1 to 1½

* NOTE.—Weights per bushel for certain grasses are old standards. Good recleaned seed is usually heavier.

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20M—3-2

AMOUNT ENCLOSED

$

SHIP BY

Check method of shipment desired

MAIL | EXPRESS | F

DO NOT WRITE IN THIS SPACE

PORTLAND SEED COMPANY

109 S. E. ALDER STREET, PORTLAND, OREGON

Name_____ Date_____

Street Address or Box No._____

City_____ County_____ S

INSTRUCTIONS FOR ORDERING, ETC.

PARCEL POST SHIPMENTS: For points beyond the 4th Zone include additio

For insurance for over $5.00 and less than $10.00 send 10c additional.

Do not request C. O. D. shipments as expense of collection is too high. Send mon of the order wherever possible as banks charge for collecting personal checks.

Stamps are acceptable for any amount less than $1.00.

Use the order blank and return envelope. Be sure that your name and full addres remittance comes with the order.

Observing these instructions will expedite the filling of your orders promptly and gi mistakes.

PORTLAND SEED CO.'S GUARANTEE

Diamond Quality Seeds, bulbs and nursery stocks are guaranteed as to vitality and purit ranty, express or implied, as to description or productiveness, neither will we be held respon liable for more than the amount paid us for the seeds, bulbs or nursery stock should they fail t or refund at our option.

Quantity	ARTICLE		

CONTINUE ORDER ON OTHER SIDE

Quantity	AMOUNT BROUGHT FORWARD	$	c

Quantity	AMOUNT BROUGHT FORWARD	$	c

20M—38-1

AMOUNT ENCLOSED

$

SHIP BY
Check method of shipment desired below

DO NOT WRITE IN THIS SPACE

MAIL	EXPRESS	FREIGHT

PORTLAND SEED COMPANY

109 S. E. ALDER STREET, PORTLAND, OREGON

Name_____ Date_____

Street Address or Box No._____

City_____ County_____ State_____

INSTRUCTIONS FOR ORDERING, ETC.

PARCEL POST SHIPMENTS: For points beyond the 4th Zone include additional postage.

For insurance for over $5.00 and less than $10.00 send 10c additional.

Do not request C. O. D. shipments as expense of collection is too high. Send money order covering the amount of the order wherever possible as banks charge for collecting personal checks.

Stamps are acceptable for any amount less than $1.00.

Use the order blank and return envelope. Be sure that your name and full address are filled in and that your remittance comes with the order.

Observing these instructions will expedite the filling of your orders promptly and give us less cause for making mistakes.

PORTLAND SEED CO.'S GUARANTEE

Diamond Quality Seeds, bulbs and nursery stocks are guaranteed as to vitality and purity, but we give no warranty, express or implied, as to description or productiveness, neither will we be held responsible for the crop nor liable for more than the amount paid us for the seeds, bulbs or nursery stock should they fail to grow, we to replace or refund at our option.

Quantity	ARTICLE	$	c

CONTINUE ORDER ON OTHER SIDE

TREATED WITH *Auxan*-MIRACLE ROOT GROWER

It is vitally important to have healthy roots if a thick, velvety turf is desired. Treating seed with this sensational new material has proved to be the answer for speeding up the establishment of a lawn.

Diamond Fancy Lawn Grass Seed has long been the most popular mixture in the Northwest. We are happy to announce this splendid mixture is now available treated with Auxan. Sold only in sealed one-pound cartons and sealed five-pound bags at your seed merchant.

One Pound 75c **Five Pounds** $3.50

PORTLAND SEED COMPANY

DIAMOND QUALITY SEED

Hudson Junior Sprayer

Ideal for all types of home spraying

A capacity of 2½ gallons of spray material. This light weight and smaller capacity tank sprayer is ideal for women. Big 6 inch opening insures easy filling, emptying or cleaning. Drains completely dry. Top and bottom beading adds additional strength. Tested at 100 pounds pressure.

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Hudson Perfection Sprayer

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NEW ITEMS *for* 1940 GARDENS

★ The Hayes Jr. Spray Gun sprays downward in a fine spray completely mixed with insecticide. The adjustable deflector can be turned to spray in any direction.

★ The Hayes Jr. Spray Gun does a perfect job of reaching the underside of leaves where so many pests are found. The adjustable deflector makes this operation very simple.

★ The Hayes Jr. Spray Gun sprays trees and climbers out of reach of ordinary methods. Remove the deflector and a stream of insecticide will reach 20 to 30 feet high according to water pressure. **$4.95** each.

★ Enjoy the beauty of well-fed house plants. These odorless plant food tablets are ideal as a food and stimulant for potted and outdoor plants.

★ These popular plant food tablets now contain Vitamin B1, the sensational scientific discovery of 1939. This added element is very essential to plant life.

30 tablets **25c** 75 tablets **50c**

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★ "Twist-Ems" come in two sizes for your convenience. 250 four-inch size or 125 eight-inch size.

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